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THE

MISCELLANEOUS DOCUMENTS

OF THE

SENATE OF THE UNITED STATES

FOR THE

SECOND SESSION OF THE FORTY-EIGHTH CONGRESS, AND THE SPECIAL SESSION OF THE SENATE CONVENED MARCH 4, 1885.

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ASTRONOMICAL

AND

METEOROLOGICAL OBSERVATIONS

MADE DURING

THE YEAR 1881,

AT THE

UNITED STATES NAVAL OBSERVATORY.

REAR-ADMIRAL JOHN RODGERS, U. S. N.,
SUPERINTENDENT.

PUBLICATION AUTHORIZED BY A CONCURRENT RESOLUTION OF THE FORTY-EIGHTH CONGRESS, MARCH 2, 1885.

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ERRATA.

VOLUME FOR 1881.

Page 14, No. 41, Instrumental Corrections, for 8′ 18″.34 read 8′ 33″.65.
Page 14, No. 41, Apparent N. P. D., for 16″.3 read 31″.6.
Page 22, No. 15, Instrumental Corrections, for 8′ 7″.02 read 8′ 22″.33.
Page 22, No. 15, Apparent N. P. D., for 11″.9 read 27″.2.
Page 24, No. 30, Reject the entire line.
Page 26, No. 19, Reject the entire line.
Page 78, No. 9, Reject the entire line.
Page 88, No. 12, Reject all of the observation in Zenith Distance.
Page 95, No. 9, Instrumental Corrections, for 36″.10 read 51″.41.
Page 95, No. 9, Apparent N. P. D., for 16″.2 read 31″.5.
Page 95, No. 9, Parallax, for 35″.4 read 33″.6.
Page 95, No. 9, Sum of Corrections, for 23″.1 read 21″.3.
Page 128, 4 Draconis, April 29, for +1″.4 read +1″.0.
Page 128, a^2 Canum Venaticorum, April 10, for —2″.4 read +2″.4.
Page 148, O. A. N., 9033, March 1, for 13″.1 read 28″.4.
Page 148, O. A. N., 9033, April 5, for 13″.4 read 28″.7.
Page 148, O. A. N., 9033, Mean, for 13″.25 read 28″.55.

REPORT OF THE SUPERINTENDENT OF THE NAVAL OBSERVATORY.

UNITED STATES NAVAL OBSERVATORY,
Washington, November 4, 1881.

SIR: I have the honor to submit herewith the report of the operations of the Naval Observatory for the past year, called for by the Bureau's order of the 27th ultimo.

THE 26-INCH EQUATORIAL.

This instrument has been in charge of Prof. A. HALL, with Prof. E. FRISBY as assistant. It is now in good working order, and has been used, as in previous years, for observations of satellites, double stars, and some of the periodical comets.

The repairs made lately have produced a decided improvement in the turning of the great dome, so that it has worked more easily. The timbers in the lower part of the dome having become decayed, it will be necessary to remove them.

The observations of double stars, made by Professor HALL from 1875 to 1880, have been collected, revised, and published. Professor FRISBY has computed parabolic and elliptic elements of the comet discovered by Mr. LEWIS SWIFT on October 10, 1880. This comet has a period of about five and a half years. He has also computed parabolic elements and an ephemeris of the great comet of 1881. The above elements have been published in the Astronomische Nachrichten.

A very careful series of observations of *α Lyræ* was begun here in 1862 with the prime vertical transit, and these were continued until 1867. The objects in view were the determination of the annual parallax of this star, and a new determination of the constants of aberration and nutation. Unfortunately, these observations did not give trustworthy results. Since it is probable that the Naval Observatory will be moved from its present site within a few years, it was thought best, while in our present position, to make some differential observations with the 26-inch equatorial for the annual parallax of *α Lyræ*. These observations were begun by Professor HALL on May 24, 1881, and were finished July 2, 1881. A series of similar observations was begun on 61 *Cygn* October 24, 1880; and these will be completed during the present month. At the same time a series of observations has been made to test the value of a revolution of the micrometer-screw, at the extreme temperatures at which the observations for parallax have been made. The observations for parallax have not been reduced further than to compute the probable error of a single comparison, but these errors show that we may expect a trustworthy result.

A great number of observations of the satellites of Mars, Saturn, Uranus, and Neptune have now been made with this instrument; and it is very desirable that these

observations should be completely reduced and discussed, and that they should be used for correcting the orbits of the satellites, for determining the masses of the primary planets, and in the formation of the tables of the satellites.

THE TRANSIT CIRCLE.

This instrument has been employed under the direction of Prof. J. R. EASTMAN, who was assisted by Prof. E. S. HOLDEN until January 1; and by assistant astronomers A. N. SKINNER, MILES ROCK, and W. C. WINLOCK during the year. Mr. WINSLOW UPTON was employed as a computer until April 1, when he was sueceeded by Mr. ALBERT S. FLINT. Lieuts. E. LONGNECKER and A. H. VAIL have been employed in reducing observations.

The observations have been confined to—

1. Stars of the American Ephemeris for clock and instrumental corrections.
2. Sun, Moon, major and minor Planets.
3. Stars whose occultations were observed in connection with observations of the Transit of Venus in 1874.
4. Standard stars for a catalogue of zone-observations.
5. Such stars of the British Association Catalogue, between 120° 0′ and 131° 10′ N. P. D., as have not been observed here three times in both right ascension and declination.
6. Stars used in the observations of comets with the 26-inch and 9.6-inch equatorials.

The whole number of observations made with the Transit Circle since the last report is 4,480. Of these observations 79 were of the sun, 57 of the moon, 146 of the major planets, and 120 of the minor planets. Comet *e*, 1880, was observed six times, and comet *b*, 1881, 16 times.

THE 9.6-INCH EQUATORIAL.

This instrument was under the direction of Prof. J. R. EASTMAN, who had the same assistants as on the work with the Transit Circle. Mr. UPTON made several observations of comets in 1880, with this instrument. The work has been confined to the observations of comets and of occultations of stars, and in determining the approximate corrections to the ephemerides of such minor planets as are not readily found with the Transit Circle.

The meteorological department is under the direction of Professor EASTMAN, and the usual observations at intervals of three hours, beginning at midnight, have been made throughout the year by the watchmen, Messrs. HAYS, HORIGAN, and CAHILL. Lieut. E. K. MOORE rendered excellent service in reducing and compiling meteorological observations from January 6 to April 1.

The control of the system of wires within the Observatory with the central switchboard, and of the connections of the wires of the Western Union Telegraph Company, is under the direction of the officer in charge of the Transit Circle; while the immediate charge of all the batteries, wires and their connections, is confided to the instrument-maker, Mr. W. F. GARDNER.

The connections for astronomical work within the building remain substantially the same as during the past year.

Outside of the Observatory, this department is responsible for the control, by means of the *motor* clock, of the several clocks in the State, War, Navy, and Treasury Departments.

PRINTING.

The annual volume for 1876 has been printed, bound in two parts, and distributed since the last report. The volume for 1877 is nearly ready for binding, and a portion of the volume for 1878 is now in press The reductions of the work of 1879 and 1880 are well advanced.

The delay in issuing the annual volumes of Observations and Results is due chiefly to the fact that the printing fund of the Navy Department is generally exhausted before the end of the fiscal year, and our work is stopped. The font of type used in our volumes is nearly worn out, and the printing office claims to have no money to purchase new type. During the sessions of Congress it is difficult to keep the usual number of compositors employed on our work. These are the principal sources of delay; and unless some remedy be found, it will be impossible to bring up the work already in arrears.

TRANSIT OF VENUS.

The first part of the report of the observations upon the transit of Venus in 1874 was published in March last by the Senate. The resolution providing for the printing allowed the Observatory only 250 copies, scarcely enough for foreign distribution. It is therefore hoped that our colleges and scientific men at home will be supplied by their Senators or Representatives in Congress.

The printing of the second part, comprising the observations made at the several stations, has been delayed for want of assistance in finally preparing them for the press. This assistance has been secured through an appropriation made at the last session of Congress; and the first batch of the observations is now in the hands of the printer.

The third part, containing the final discussions of the longitudes of the several stations, is also nearly ready.

PHOTOGRAPHIC OBSERVATIONS OF THE TRANSIT OF MERCURY.

In the reduction of the photographic observations of the transit of Mercury of May, 1878, Professor HARKNESS has been assisted by Mr. ALBERT S. FLINT, from May 25 to September 19. In addition to the 112 photographs measured by Lieut. T. D. BOLLES, and the 101 measured by Lieut. THOMAS PERRY in 1878 and 1879, Mr. FLINT has, during the present year, measured 17 photographs, and Professor HARKNESS 8, making 238 plates; but as each plate was measured twice, the actual number of separate photographs is 119. Of these, 25 were made at Cambridge, Mass., 30 at this Observatory, and 64 at Ann Arbor, Mich. The numerical reductions of the measurements of these plates are now completed, and the results may be summarized as follows:

Each plate having been measured in duplicate, if the positions of Mercury upon the sun's disk given by the measures of the first observer are subtracted from those

given by the measures of the second observer, the mean of all the residuals thus obtained will be the constant error due to personal equation in measuring. Its amount for each station is:

	In altitude.	In azimuth.
	″	″
Cambridge	− 0.10	− 0.08
Washington	− 0.09	+ 0.08
Ann Arbor	+ 0.15	− 0.02

Thus it appears that for the mean of the three stations the constant error of reading is practically zero.

If the mean of the readings by the two observers is accepted as the truth, the probable error of a position of Mercury upon the sun's disk, as determined from a single set of readings by one observer, is:

	In altitude.	In azimuth.
	″	″
Cambridge	± 0.18	± 0.20
Washington	± 0.19	± 0.18
Ann Arbor	± 0.24	∓ 0.28

The locus of the average probable error therefore lies within a circle whose radius is 0″.21.

The corrections found at each station to Le Verrier's Tables of Mercury, as represented by the British Nautical Almanac for 1878, are:

	Right ascension.	North polar distance.
	s.	″
Cambridge	+ 0.079	− 0.22
Washington	+ 0.105	− 0.12
Ann Arbor	+ 0.083	+ 0.47

The correction to the north polar distance given by the Ann Arbor plates seems to be affected by a constant error, and an effort will be made to discover its origin.

The probable error of a position of Mercury depending upon two sets of readings made upon a single photograph is:

	Right ascension.	North polar distance.
	″	″
Cambridge	± 0.570	± 0.562
Washington	± 0.655	± 0.579
Ann Arbor	± 0.436	± 0.514

The probable errors in right ascension have been reduced to arc of a great circle. We may infer from the mean of all the stations that the average locus of the probable error of the position of the planet in the heavens is a circle whose radius is 0″.553.

These results are of great importance as showing what may be expected from the application of photography to the approaching transit of Venus; and it is desirable that the report of which they will form a part should be issued soon. With this view, sixteen sheets of drawings have been prepared for the necessary illustrations, and the writing of the text will be pushed forward as rapidly as possible.

In the prosecution of the experiments on astronomical photography, Professor HARKNESS has been assisted by Mr. JOSEPH A. ROGERS, from October 1, 1880, to February 1, 1881, and from April 1, to September 13.

Forty-nine sets of positives on glass, amounting in the aggregate to 238 pictures, have been made from the negatives of the total solar eclipse of July 29, 1878; and last February they were distributed among the most prominent observatories and astronomers in this country and Europe. It was found exceedingly difficult to make satisfactory copies of the original negatives, but as scientific men attach far more importance to photographs than to the most careful drawings, the large amount of time and labor expended in reproducing these pictures is thought not to have been misapplied.

Twenty-four samples of pyroxyline have been prepared at temperatures of 150° and 165° Fahrenheit, and with various proportions and strengths of the acids. As there has always been great difficulty in producing pyroxyline possessing uniform properties for photographic purposes, the utmost care has been exercised in every step of the process by which the 24 samples in question were manufactured; and it is hoped that the exact repetition of these processes will furnish gun-cotton at least closely resembling the original samples. Meanwhile, these original samples are being made up into collodions which will be tested with respect to their fitness for astronomical photography.

With the aid of Professor HARKNESS' private apparatus, a series of experiments has been made in photographing the spectra of the sun and moon, the object aimed at being to determine the exposure coefficients for different parts of the spectra, and thus to obtain some data respecting the best form of apparatus for use in attempting to photograph the spectrum of the corona during total solar eclipses. In connection with this investigation, a six-inch equatorial camera has been mounted, and some photographs of the lunar eclipse of June 11, 1881, were obtained.

To clear up some points respecting the relative advantages of silvered and unsilvered heliostat mirrors in the photographic apparatus to be used for observing the coming transit of Venus, a 20-foot horizontal photoheliograph has been mounted alongside of the 40-foot one, and the investigation will be proceeded with as soon as the weather is sufficiently cool. In this connection it may be well to mention that all our photographic operations are much impeded by the cramped and unsuitable character of our photographic house. It was erected in 1873 as a temporary structure in which to make certain experiments relating to the then approaching transit of Venus, and has been used almost without change ever since. During the past

summer the temperature in it has generally been above the boiling-point of ether; and last winter it was sometimes below the freezing-point of water, in spite of a stove which was kept constantly burning.

From March 25 to November 4, 1879, pictures of the sun were taken with the 40-foot photoheliograph on every fine day, the whole series amounting to 108 pictures; but as it is scarcely worth while to attempt this work unless it can be kept up continuously, it has not been resumed during the present year.

Ensign S. J. BROWN was detailed to assist Professor HARKNESS on July 19; and he has begun work upon the long-deferred catalogue of stars, which is to be made from the zones observed, under the direction of the late Capt. JAMES M. GILLISS, by the Naval Astronomical Expedition to Chile in 1850–'51–'52.

CHRONOMETERS.

There are now in the chronometer-room 228 chronometers, of which 21 are ready for issue, 17 are on trial, 58 need repairs and will be repaired as wanted, and 132 are condemned to be used only as "hacks." Thirty-two have been received from vessels and other sources of service, and run down for repairs, having run their allotted time, four years, since cleaning. Fifty-two have been issued to vessels afloat, and for other service. Forty-four have been cleaned and repaired, and there are now 27 in the hands of T. S. & J. D. NEGUS, of New York, being put in order.

There were 6 new chronometers on trial at the beginning of the year, preparatory to purchase from Messrs. NEGUS, all of which passed the test, and were accepted March 1, 1881. On their trial they showed an excellent record, taken as a lot, better than that of any ever before purchased for the Navy.

The time continues to be sent out over the wires of the Western Union Telegraph Company to New York for three minutes and five seconds before New York noon, and the ball to be dropped on the building of the company at mean noon of that meridian (longitude 4 hours, 56 minutes, 01.6 seconds). The time is also sent over the same company's wires for three minutes and fifteen seconds before Washington mean noon, to wherever that company may choose to switch, in the limit of their wires, it being entirely under their control. The time-ball of this Observatory is dropped at our mean noon for the use of the city.

The fire-alarm bells connected with the Observatory are struck from the chronometer-room at 7 a. m., 12 m., and 6 p. m. each day, Sundays excepted, which tests their connections as well as giving the time to the public.

There are several horological establishments in Washington, connected directly with the Observatory, which regulate their clocks each day at noon; and in New York City over a hundred different places are connected by special arrangement with the Western Union Telegraph Company, through which their clocks are corrected daily by direct comparison with the Naval Observatory signals.

The New York ball has occasionally failed to drop, owing to some unknown cause, apparently outside of the Observatory, as the Observatory ball has only failed twice during the year—once occasioned by everything being covered with ice, and

once dropping three seconds too soon, by reason of a cross and leak of the wires. The latter caused a failure in New York the same day.

The greatest error that has occurred in telegraphing out the time was one second and thirty-four hundredths. This was due to cloudy weather for eight days, when a transit observation could not be obtained; during which time a great change took place in the temperature, altering slightly the rate of the standard clock.

With very little additional expense and labor in the clock-room the local time could be furnished, and the time-balls dropped at other cities, as now done in New York, had we the use of a Western Union or other telegraph wire for two or three minutes before noon at each place. It is a question whether Congress will go to the expense of furnishing the cost of such wires to give Washington time to the country at large.

THE LIBRARY.

The library, in charge of Mr. E. F. QUALTROUGH, Master, U. S. N., has been increased during the year by the addition of nearly two thousand volumes and pamphlets, obtained by purchase, exchange, and donation.

Since the last report, thirty incomplete volumes of periodicals have been filled up by the purchase of the missing numbers, and about the same number of unfinished sets still remain.

In June last 250 volumes were sent to the bindery, of which number 240 still remain in the hands of the binder.

The volumes in the library are classified about as follows:

1. Works on astronomy, mathematics, physics, meteorology, geography, geodesy, and naval science, including transactions of learned societies; 7,900 volumes.

2. Pamphlets and papers on the same subjects, classified and placed in drawers; about 1,300 numbers.

3. Miscellaneous works of reference, &c.; about 650 volumes.

4. Publications of the United States Senate and House of Representatives; 600 volumes.

Total, 10,450 volumes and pamphlets.

A card catalogue of over 20,000 cards has been arranged, and is found to be very convenient for reference. It is not yet in condition for printing.

It seems advisable that the library should be provided with fire-proof quarters at the earliest possible date, since many of the rare and very valuable works which it now contains would be difficult to replace.

The list of correspondents to whom our publications are regularly distributed contains at present 886 names.

During the year, about 4,000 separate numbers of the publications of the Observatory have been distributed. These consisted mainly of the annual volume of Observations and Results, for the year 1876, Parts I and II; the Reports on the Total Solar Eclipses of July 29, 1878, and January 11, 1880, of which 1,750 copies were received from the printer; Appendices I and II, Washington Observations for 1877, and Observations of Double Stars, by Prof. A. HALL.

In addition to the above, about 300 numbers of the back publications have been issued to fill sets which had been left incomplete in former distributions, and to supply new institutions.

There are at present remaining in reserve about 2,000 separate volumes of the Observatory publications.

It is desirable that some of our sets of valuable foreign publications be completed back to the date of their commencement, but this can hardly be done with the annual appropriation for books without interfering with the purchase of modern scientific works and periodicals. The required volumes can doubtless be procured at any time within a few years, and their purchase might perhaps be deferred until the library shall be in safe and more commodious quarters.

Very respectfully, your obedient servant,

JOHN RODGERS,
Rear-Admiral, U. S. N., Superintendent.

Commodore JOHN G. WALKER, U. S. N.,
Chief of Bureau of Navigation.

GENERAL INTRODUCTION.

The Observatory was originally built as a depot of charts and instruments for the Navy, and was fully described in a "Report on the Plan and Construction of the Depots of Charts and Instruments, with a description of the instruments," etc., made by Lieut. JAMES M. GILLISS, U. S. N., to the Secretary of the Navy, in February, 1845, and published as Senate Document No. 114, Twenty-eighth Congress, second session. A more general description, illustrated by plans and drawings, may be found in the volumes of Washington Observations for 1845, 1865, and 1874.

Position of the Observatory.—The following clause relating to the meridian of the Observatory is found in the naval appropriation bill passed by Congress September 28, 1850: "The meridian of the Observatory at Washington shall be adopted and used as the American meridian for all astronomical purposes, and the meridian of Greenwich shall be adopted for all nautical purposes."[1] The latitude deduced from observations with the Mural Circle in 1845 and 1846 was $+ 38° 53' 39''.23$;[2] and that value was used in the reduction of all observations with the Mural Circle down to 1878. The observations made with the same instrument from 1861 to 1864, inclusive, give a latitude $+ 38° 53' 38''.8$;[3] which has been used in the reduction of observations with the Transit Circle. The final north polar distances of objects observed with the Transit Circle in any year depend upon all the observations of circumpolar stars made during that year.

The longitude and the latitude of the Observatory are reckoned from the center of the old dome, which is built over the center of the main building.

The telegraphic determination of the longitude from Greenwich depends almost entirely upon the work of the United States Coast Survey. The following data are obtained from the official reports of that office.

In August, 1872, the longitude was given as—

$$5^h\ 8^m\ 12^s.06 \pm 0^s.23,$$

and in August, 1873, it was announced by the assistant in charge of the office that the Coast Survey had made three independent determinations, with the following results:

	h.	m.	s.
In 1866 - - - - - - - - - - - - - -	5	8	12.11
1870 - - - - - - - - - - - - - -			12.10
1872 - - - - - - - - - - - - - -			12.07
The value adopted by the Coast Survey[4] is -	5	8	12.09

[1] Revised Statutes of the United States, section 435.
[2] Washington Observations, 1845, Appendix, p. 116.
[3] Washington Observations, 1864, Introduction, p. xliv.
[4] Report of the Superintendent of the U. S. Coast Survey, 1874, p. 182.

In interpolating tabular positions of the moon and planets, the longitude of the Observatory is assumed to be $5^h\ 8^m\ 12^s.0$.

Since the Observatory was built there have been several changes in the positions of its instruments; and in order to facilitate comparisons of the work done with them at different times, their co-ordinates, measured from the center of the old dome, are given in the following table. The sign + before a co-ordinate indicates that the instrument is north or west of the center of the dome, and the sign — indicates that it is south or east of that point.

Instruments.	Diff. of Latitude.		Diff. of Longitude.	
	Feet.	″	Feet.	s.
Transit:				
January, 1845, to September 2, 1864 . . .	0.0	0.00	+ 41.0	+ 0.035
Since October 1, 1864	0.0	0.00	— 42.9	— 0.036
Mural Circle:				
January, 1845, to September 15, 1845 . .	0.0	0.00	+ 32.0	+ 0.027
Since October 1, 1845	0.0	0.00	— 33.9	— 0.029
Meridian Circle:				
January, 1845, to August, 1864	0.0	0.00	— 42.9	— 0.036
Prime Vertical Transit:				
Since January, 1845	— 45.4	— 0.45	0.0	0.000
Transit Circle:				
January 1, 1866, to June 5, 1869	0.0	0.00	+ 38.4	+ 0.032
Since October 1, 1869	0.0	0.00	+ 77.8	+ 0.066
26-inch Equatorial (center of dome)				
Since November 15, 1873	— 120.1	— 1.19	0.0	0.000

Arrangement of Work.—The system adopted at the time of the revival of the astronomical activity of this establishment in 1861 is still continued. Under this system the observations with each instrument are directed by the officer having it in charge, who is held responsible for the proper performance of the work, and prepares the descriptions, explanations, and discussions of the observations in the annual volumes.

During the year the details for duty were as follows:

The Transit Circle was under the direction of Prof. J. R. EASTMAN, U. S. N., assisted by Assistant Astronomers A. N. SKINNER, MILES ROCK, and W. C. WINLOCK. Mr. WINSLOW UPTON was employed as a computer from January 1 to April 1, and Mr. A. S. FLINT from April 1 to December 31. Mr. W. M. BROWN, jr., was employed on miscellaneous computations during the year. Lieutenants E. LONGNECKER and A. H. VAIL, U. S. N., were also employed as computers on Transit Circle and meteorological work during the year.

The Transit Instrument, the Mural Circle, and the Prime Vertical Transit were not in use during the year.

The 9.6-inch Equatorial was under the direction of Prof. J. R. EASTMAN, U. S. N.

The 26-inch Equatorial was under the direction of Prof. A. HALL, U. S. N., assisted by Prof. E. FRISBY, U. S. N.

The meteorological observations were made, under the supervision of Prof. J. R. EASTMAN, U. S. N., by the watchmen of the establishment, Messrs. THOMAS HAYS,

THE TRANSIT CIRCLE.

During the year 1881 the work with the Transit Circle was carried on under the direction of Prof. J. R. EASTMAN, U. S. N.

The Assistants were Assistant Astronomers A. N. SKINNER, MILES ROCK, and W. C. WINLOCK.

The regular observations with the Transit Circle were confined to the following classes of objects:

(1) Stars of the American Ephemeris, for the determination of clock corrections, azimuth corrections, and the corrections to the zenith point and the assumed latitude.

(2) Sun, Moon, and Planets.

(3) Stars whose occultations were observed at this Observatory and by the various American parties who observed the Transit of Venus in 1874.

(4) Stars selected for standard stars in the formation of a catalogue from the zone observations made here from 1846 to 1849.

(5) The stars of the British Association Catalogue between 120° 0′ and 131° 10′ N. P. D. that have not been observed here three times in right ascension and declination.

THE OBSERVING-ROOM.

The interior of the observing-room, which has been occupied since February 2, 1870, measures 40 feet from north to south and 28 feet 3 inches from east to west. Its height, from the floor to the under side of the shutters which close the opening in the roof, is 23 feet 2 inches at the ridge and 19 feet 6 inches at the eaves. The ridge of the roof extends east and west. The opening in the roof has a width of 3 feet 8 inches, and extends downward, in the north and south walls, to within 7 feet 4 inches of the floor. The portion in the roof is closed by means of four sliding shutters, while that in the north and south walls is closed by double doors.

The inside of the walls of the frame on the east, south, and west sides is covered with tin, and the outside of the frame is protected from the direct rays of the sun by light, wooden louver-work. The northern wall is covered on the outside with tin The outside is painted white and the inside light blue.

The latitude of the Transit Circle is the same as that of the center of the central dome of the Observatory, but in longitude it is 77.8 feet = $0^s.066$ west of that point.

DESCRIPTION OF INSTRUMENTS.

THE TRANSIT CIRCLE.

A detailed description of the Transit Circle, together with an account of the investigation of its constants, may be found in the Washington Observations for 1865.

The following condensed description will be sufficient to render intelligible the explanation of the observations and their reduction.

This instrument was made by Pistor & Martins, of Berlin, in 1865. It is of the reversible pattern, and is mounted upon two massive marble piers, with its axis 8 feet 2 inches above the floor. The telescope has a clear aperture of 8.52 inches, and a focal length of 12 feet and 0.7 of an inch. The axis is cast in a single piece, into which the steel pivots, 2.09 inches in diameter and 1.7 inch long, are screwed. The Y's are of gun-metal, and the bearing-surfaces are 0.28 inch wide. The distance between the centers of the bearing-surfaces is 3 feet 9.1 inches. The telescope-tube is made in two similar parts, which are bolted to the opposite sides of the cube which forms the central portion of the axis. The cube measures 16.64 inches on the edge.

Two circles, identical in form and size, are attached to the extremities of the axis. Each has ten radial arms, is cast in a single piece weighing about eighty pounds, is 45.3 inches in diameter at the outside edge, and 43.4 inches at the graduation. The circle on the clamp end of the axis, known as circle A, has inlaid upon its face two bands of silver, each 0.13 of an inch wide, the inner one of which is graduated to every 2′, and the outer one to every 10′. The other, known as circle B, has inlaid upon its face a single band of silver 0.13 of an inch wide, which is graduated to every 2′. The graduation on each of these circles is numbered, from left to right, from 0° to 360°, and, as they face in opposite directions, when the telescope is moved in zenith distance the reading of one circle increases while that of the other decreases. The circles are attached to the axis in such a manner that they may be adjusted to bring any desired divisions under the microscopes in a given position of the telescope. Each pier carries four micrometer microscopes placed at the extremities of two diameters, which intersect at right angles, and each of which makes an angle of 45° with the vertical. They are attached by means of metal arms, covered with wood, to the brass disk on the face of the pier, which supports the Y's The microscopes on the western pier are marked I, II, III, IV; those on the eastern pier, V, VI, VII, VIII. The readings of the former diminish and those of the latter increase as the telescope moves from the zenith toward the south. These microscopes magnify about forty-five diameters; one revolution of their screws is equal to 30″, and their micrometer-heads are divided to 0″.5. Each microscope micrometer is furnished with two parallel threads about 12″ apart, and the reading is made when the image of the division on the limb of the circle appears to be exactly midway between the threads.

In addition to the microscopes already mentioned, each pier carries another, which is employed as a pointer for setting the telescope by means of the coarse graduation on circle A. These microscopes magnify twenty-three diameters, and are placed at the extremities of horizontal radii to the circles; that on the western pier being north and that on the eastern pier south of the axis. The setting microscope in actual use is always the one at the clamp end of the axis.

In the eye-piece of the telescope is a fixed reticule of fifteen vertical and two horizontal threads. The latter have a space of about 8″ between them, and are inserted principally to mark the center of the field. The notation, and the approximate equatorial intervals between each vertical thread and the mean of sets B and D, and C_2, C_3, and C_4, are as follows:

TABLE I.

	s.		s.		s.
I	36.8	C_1	4.1	D_1	8.2
II	24.5	C_2	2.0	D_2	9.6
III or B^1	12.2	IV or C_3	0.0	V or D_3	12.3
B_2	9.7	C_4	2.0	VI	24.5
B_3	8.2	C_5	4.1	VII	36.8

The threads B_1 to B_3 are known as set B; C_1 to C_5 as set C; and D_1 to D_3 as set D. The thread on the western side of the field is always known as I; therefore, when the instrument is reversed the notation of the threads is reversed.

The eye-piece also contains a right-ascension and a zenith-distance micrometer, in each of which the readings increase as the threads move from the micrometer-head. The right-ascension micrometer is provided with a single vertical thread, and is employed in determining the collimation constant, and sometimes in observing the transit of close circumpolar stars when clouds prevent observation at the fixed threads. The value of one revolution of the micrometer-screw is $1^s.024$. The zenith-distance micrometer is furnished with five horizontal threads, two of which were placed about 8″ apart at the beginning of 1881, but on May 13 were changed to about 5″.5 apart, and so remained during the year. The center of the space between these threads is regarded as the standard middle thread. The value of one revolution of this micrometer-screw is 15″.312. Two of the other threads are placed at a distance of about 2′ 33″ on either side of the middle threads; that nearest the head of the micrometer being called thread A and the other thread B. For observing Mars at the opposition in 1877 a fifth thread, *b*, was inserted beyond B, about 2′ 55″ from the middle threads, and is still in the same position. In observing southern stars, the micrometer-head is below the eye-piece if the clamp is west, and above it when the clamp is east. An increase of micrometer reading is subtractive from the reading of circle A, and additive to that of circle B. A self-registering apparatus is attached to the head of the micrometer-screw in such a manner as to enable the observer to obtain a record of at least four bisections without removing the eye from the eye-piece.[1]

The illumination of the field of view is so arranged that the threads can be shown either *dark* on a bright field or *bright* on a dark field. In the case of bright-field illumination, the color can be varied from deep red to dark blue.

The instrument is provided with five positive eye-pieces, magnifying respectively 135, 158, 186, 279, and 395 diameters. That magnifying 186 diameters is the one generally used.

Collimators.—The Transit Circle is provided with two collimators, having object-glasses of 35.2 inches focal length, and 2.1 inches clear aperture. The eye-pieces have a power of 67. The collimators are mounted on sandstone piers, the one north and the other south of the Transit Circle, and 14.8 feet from the center of the instrument. The field of view of the south collimator, A, contains a vertical thread crossed at its middle point by a horizontal thread. The field of view of collimator B contains

[1] See Astronomische Nachrichten, No. 1493, p. 77.

a fixed vertical thread, and two intersecting threads, movable by a micrometer-screw. Each of the intersecting threads makes an angle of 12° with the vertical. Two levels are provided, by which the collimators may be placed horizontal.

Each side of the central cube of the Transit Circle telescope is pierced with a circular opening, 2.3 inches in diameter, which is closed by a brass cap. By removing the caps, and setting the telescope vertical, the threads of either collimator may be seen from the other.

The standard sidereal clock—The sidereal clock used in connection with the Transit Circle is Kessels No. 1324. In order to provide against the effects of sudden changes of temperature, the clock, which is situated in the room adjoining the observing-room on the eastern side, is inclosed in a vault of heavy masonry lined with tin, and to prevent the works of the clock from rusting, the dryness of the air is maintained by keeping a fire in the clock-room throughout the year. The clock has a gridiron pendulum, and was formerly connected with the galvanic system of the Observatory by means of a platinum point which projected from about the middle of the pendulum-rod, and at each vibration lightly touched the surface of a small globule of mercury and closed the circuit. At the beginning of 1877 this platinum point was changed to the lower end of the pendulum-bob. The clock is connected with the chronograph in the usual way.

The rate of the clock is controlled by means of small weights, which can be placed in a small cup attached to the pendulum-rod.

The counting-clock.—This clock is attached to a brick pier near the eastern wall of the observing-room. It was made by Parkinson & Frodsham, of London, and has a mercurial pendulum. Its rate is controlled by means of small weights placed on the top of the jar of mercury, and it is kept within less than half a second of the Kessels clock.

This clock contains a delicate spring, furnished with a platinum point, resting upon a small plate of the same metal; the whole so arranged that at the beginning of each minute an arm attached to the arbor of the seconds hand raises the spring and separates the point from the plate for nearly one second. Wires are attached to this apparatus, so that if desired it may be included in the same circuit with the Kessels clock, when, if the beats of the two clocks are nearly in coincidence, the mark for the sixtieth second of the Kessels clock will be omitted on the chronograph.

The standard mean-time clock.—This clock is attached to a stone pier in the chronometer-room, but the officer in charge of the Transit Circle is responsible for furnishing its errors and rates. It was made by Parkinson & Frodsham, of London; has a mercurial pendulum; and its rate is controlled by means of small weights placed on the jar containing the mercury. It is compared with Kessels No. 1324 by causing their beats to be recorded on the same chronograph, generally until a coincidence is obtained.

The chronograph.—This instrument is mounted on a wooden stand near the eastern wall of the observing-room. It is a modified form of the Hipp chronograph, in which regularity of motion in the train is secured by a spring making 132 vibrations a second. The barrel of the chronograph is 6.37 inches in diameter, 13.5 inches long, and revolves once in a minute. A sheet of paper fastened on the chronograph barrel by

thin metallic springs is sufficient to contain the record of two hours' continuous work, and the train requires winding only when the paper is changed. The clock-signals and those of the observer are recorded by a signal pen. The armature of the magnet which controls the pen is provided with repeating-points for use in sending signals to distant stations when determining differences of longitude by telegraph. The pen-carriage is moved forward by an endless screw, but may be lifted from its bearings and moved backward or forward so that the pen may be placed upon any desired part of the chronograph sheet. The chronograph stops when the sheet is full. The record is made on paper of the quality of ordinary writing paper with an ink that does not freeze at 0° F. The ink is made in the following proportions:

Water	4 fluid ounces.
Alcohol	2 fluid ounces.
Concentrated glycerine	1 fluid drachm.
Crystallized aniline blue	40 grains.

The ink requires thorough filtering. The pen is of glass, and the lower part of the bulb is drawn out to a fine capillary tube, so that, when ink is placed in the bulb and the pen allowed to rest its whole weight on the paper, it produces a fine sharp line as the barrel revolves.

The barometer and thermometers.—The barometer is of the cistern form, and is suspended on the eastern wall of the observing-room, near its northeastern corner. This instrument has a tube about 0.3 of an inch in diameter, and the graduation may be read by means of a vernier to 0.01 of an inch. The *attached* thermometer has a Fahrenheit scale graduated from + 2° to + 125°. The *external* thermometer has a Fahrenheit scale, and is graduated from — 36° to + 157°. It is suspended 1 foot outside the north front of the observing-room, 13.5 feet above the grass, and is protected from radiation by a shield formed by a double roof of boards, the upper one covered with tin painted white, and three sides of wooden double louver-work. The *upper* thermometer is suspended above the nadir stage, with the bulb nearly as high as the object-glass when the telescope is pointed towards the zenith. It has a Fahrenheit scale graduated from + 4° to + 144°.

Personal equation apparatus.—The apparatus for determining the personal error of an observer in noting the time of the transits of stars is the one described in the introduction to the Transit Circle work in the volume for 1875, and has been used during the year 1881 to determine the personal equation of all the observers with the Transit Circle.

Reflection apparatus.—The apparatus described in the Introduction to the Transit Circle work in the volumes for 1875 and 1876 was used during 1881 for observing stars by reflection.

In practice the rule generally followed was to make the bisections for the direct and reflected observations symmetrical with regard to the central thread; in most cases for reflection observations at threads I and II, and for direct observations at VI and VII.

OBSERVATIONS WITH THE TRANSIT CIRCLE.

Position of axis.—The system of observations with this instrument is based on the plan of reversing the axis at the beginning of each year, and at the same time shifting the position of circle B on the axis so that the north polar distances of the same object will depend on different circle-divisions in different years. During the year 1881 the clamp end of the axis was east.

Arrangement of work.—During the year 1881 there were four observers attached to the Transit Circle, who, with the assistance of one computer and one line officer of the Navy, made all the observations and computations except such computing and copying as could be obtained for less than one thousand dollars. As a rule, each observer is held responsible for all the observations to be made during an "observing-day" of twenty-four hours, beginning at 9 a. m.

The usual observing-hours are from 9 a. m. to 3 p. m. and from 8 p. m. to an hour late enough to observe whatever small planets may be near opposition. It is a rule to observe the moon whenever it can be seen at time of transit, and on Sundays the only observations regularly made are those of the moon and of stars necessary for the determination of time and instrumental constants.

Generally, in clear weather, it is designed to observe a group of at least three "time stars" in the forenoon and three in the afternoon, and also a similar number near the beginning and the end of the work at night.

The azimuth constant is considered invariable throughout the "observing-day"; but the collimation and level constants and the zenith-point correction are generally determined at about the middle of the observations for each day and each night. If the observations are prolonged to a very late hour at night these constants are generally determined twice.

The number of observations to be obtained in an "observing-day" has not been fixed, for, with rare exceptions, the zeal of the observers leaves no necessity for fixing a minimum limit.

Method of observing.—A galvanic current, closed by the Kessels clock, controls the chronograph-pen, and all observations of time are made by the aid of its recorded beats. Therefore, the first duty of the observer is to put the counting-clock in coincidence with the Kessels. Then the counting-clock serves to indicate the second corresponding to each beat of the chronograph-pen, and when included in the clock circuit it also indicates the beginning of each minute on the chronograph by causing the pen to omit the mark corresponding to the sixtieth second.

The general method adopted in using the Transit Circle is to bring the proper divisions of circle B near the zeros of its micrometer microscopes, and then to measure with the zenith-distance micrometer of the telescope the distance between its zero-point and the image of the object observed. The subdivision of the intervals between consecutive divisions on circle B is thus thrown entirely on the zenith-distance micrometer, and as the arc measured by the micrometer microscopes rarely exceeds 10″ their errors of run are neglected. The graduation of circle B is considered better than that of circle A, and is consequently employed in all measures of zenith distance. Circle A is used only as a setting circle, to indicate the degrees and minutes of zenith

distances, and its position on the axis is never changed. If a collimating eye-piece is attached to the telescope, its zenith-distance micrometer set at 35 revolutions, and the instrument turned until the central micrometer-wires coincide with their own images reflected from the surface of mercury, the reading of the horizontal microscope of circle A will be 179° 56′, and some divisions of circle B will be found very nearly under the zeros of its micrometer microscopes.

Let

R denote the reading of the horizontal microscope of circle A when the telescope points to the zenith;

φ, the latitude of the Transit Circle;

δ, the declination of the object;

r, the refraction of the object;

Then, when the clamp is west, the telescope must be set so that the reading of the horizontal microscope of circle A will be,

For a direct observation..... $R - \varphi + \delta \pm r$

For a reflection observation..... $180° + R + \varphi - \delta \mp r$

If the clamp is east, the reading will be,

For a direct observation..... $R + \varphi - \delta \mp r$

For a reflection observation..... $180° + R - \varphi + \delta \pm r$

If the true value of φ were substituted in these expressions, whenever the computed setting was not exactly an even minute, it would be necessary to set on the *nearest* even minute. In practice, it is found much more convenient to set on the *next less* even minute; and, in order to avoid measuring more than half the distance between two consecutive divisions on the circle with the zenith-distance micrometer a fictitious value of φ is used. The fictitious latitude is $\varphi + 1'$ for a direct observation with clamp east, and a reflection observation with clamp west; and $\varphi - 1'$ for a direct observation with clamp west, and a reflection observation with clamp east. The formulæ actually employed for computing the settings are, therefore,

For a direct observation, clamp east..... $38° \; 50'.6 - \delta \mp r$

For a reflection observation, clamp east..... $141° \; 3'.4 + \delta \pm r$

For a direct observation, clamp west ... ... $321° \; 3'.4 + \delta \pm r$

For a reflection observation, clamp west..... $218° \; 50'.6 - \delta \mp r$

In these formulæ, r is taken with the upper sign for an object south, and with the lower sign for an object north, of the zenith. For the Moon, r is made equal to the sum of the refraction and parallax. In observing faint objects, it is often desirable to know the approximate reading of the zenith-distance micrometer for the point at which the object will enter the field of view. In both positions of the clamp the reading is computed from the formula,

$$\text{Micrometer reading} = 39 \text{ revolutions} - \frac{\varepsilon}{R}$$

where ε is the difference between the computed setting and the next less even minute, and R is the value of one revolution of the micrometer-screw.

The adopted mode of observing is to move the zenith-distance micrometer until the image of the star or of the limb of the Sun, Moon, or planet bisects the space between the two middle threads of the micrometer, and this operation is called, in this introduction, briefly, *bisecting* the object. Very faint objects are bisected with the threads A or B. These threads are also used, in order to avoid moving any thread more than two minutes, when observing two or more objects, differing more than two minutes in declination on the same setting. Bisections are made always by moving the micrometer-threads *from* the head. The microscope-micrometer threads are always moved *toward* the head. The readings of the zenith-distance micrometer are taken from the self-registering indexes after the completion of each observation.

Three persons are usually employed in making a complete observation of the four limbs of the Sun, though it is sometimes accomplished by two. The setting for the north and south limbs is computed, a paste-board cap with a circular aperture 3 inches in diameter is put over the object-glass, a shade-glass is placed on the eye-piece, and the telescope set for the position of the Sun's center. About two minutes before the predicted time of transit of the Sun's center, the shutters are opened, and the observer notes the time of transit of the preceding limb over the eleven transit threads in the usual way. The assistant at circle A now sets the telescope for the observation of one of the horizontal limbs, and while the observer is making the bisections at threads I and II, the assistant at circle B reads the four microscopes. This done, the telescope is set for the other limb, the bisections at threads VI and VII are made, and the assistant at circle B again reads the four microscopes. The telescope is then unclamped and moved until the following limb is in the field, when its transit over all the threads is observed. During the observation, the circles are protected from the direct rays of the sun by the steps and platform used in observing the nadir point.

In observations of the Moon, if the preceding limb is the full one, the settings for the center and for the full horizontal limb are computed and the instrument set for the center, but not clamped. The transit of the preceding limb is then observed, and the observer going to circle A sets the instrument on the full horizontal limb. Returning to the eye-piece, he makes the bisections usually at threads II, III, IV, V, and VI. The observation is completed by reading the microscopes of circle B.

If the following limb is full, the telescope is set for the position of the full horizontal limb, and the microscopes are read before the Moon enters the field. After the bisections are made, the telescope is unclamped and moved till the following limb is in the field, when the transit is observed in the same way as for the preceding limb.

When the larger planets are observed, the bisections of one limb are made at threads I and VII, and of the other at II and VI. The transit of the preceding limb is usually observed at sets B and D, and of the following limb at set C.

Planets which do not present a well-defined disk are observed in the same manner as fixed stars.

The general plan for observing fixed stars is as follows:

(1) If the star is within 5° of the pole, the transit is observed by eye and ear at the threads of set C, and it is bisected at C_1, C_3, and C_5, or sometimes at all the threads of the set.

(2) If the star is situated between 5° and 20° of polar distance, the transits over set C are recorded on the chronograph in the usual way, and it is bisected at any two of the threads B_1, B_3, D_1, D_3; preference being given to the combination B_3, D_1, or B_1, D_3, which make the observation symmetrical.

(3) If the polar distance of the star exceeds 20°, its transit over the eleven threads is recorded on the chronograph, and the bisections are made at any two of the threads I, II, VI, VII; preference being given to the combinations II, VI, or I, VII. Sometimes bisections are made at each of the threads I, II, VI, VII.

(4) In the case of double stars, the transit of one component is usually observed over sets B and D, and of the other over set C. The bisection of one component is made at threads I and VII, and of the other at threads II and VI.

In observing transits by eye and ear, the beat of the chronograph-pen is used and not that of the counting-clock.

Thread intervals.—The following thread intervals were determined early in 1877, and have been employed during the year 1881:

TABLE II.

	s.		s.		s.
B_1	+12.230	C_1	+4.078		
B_2	9.681	C_2	+2.035		
B_3	8.166	C_3	+0.011	D_1	−8.174
		C_4	−2.051	D_2	9.642
		C_5	−4.095	D_3	12.255

In reading all complete observations from the chronograph sheets the records for C_1 and C_5 are omitted, and the remaining nine threads are considered the standard set.

The zenith-distance micrometer-screw.—From a series of observations made in 1873, the value of one revolution of the zenith-distance micrometer-screw was found to be 15″.312, and this value has been used in reducing the observations made in 1881.

When the close pair of micrometer-threads occupies the center of the space between the fixed horizontal threads, the reading of the micrometer-screw is 40 revolutions, and the reading increases as the threads move from the micrometer-head.

The right-ascension micrometer-screw.—The adopted value of one revolution of this screw is 1ˢ.024. This value was determined by measuring the intervals between the transit threads, which had been determined by the transits of stars near the pole.

Inclination of threads.—The corrections for inclination of micrometer-threads used in 1881 are given in the following table:

TABLE III.—*Inclination of Threads.*

Vertical Threads.	January 17 to May 12. Correction for Central Threads.	Correction for Thread A.	Correction for Thread B.	Correction for Thread *b*.	May 16 to December 31. Correction for Central Threads.	Correction for Thread A.	Correction for Thread B.	Correction for Thread *b*.
	″	′ ″	′ ″	′ ″	″	′ ″	′ ″	′ ″
I	0.67	2 29.68	− 2 35.46	2 56.83	0.72	2 31.30	2 33.58	2 55.98
II	0.45	29.89	35.28	56.56	0.48	31.60	33.32	55.53
III	− 0.22	30.10	35.10	56.28	− 0.24	31.90	33.06	55.08
IV	0.00	30.32	34.92	56.01	0.00	32.20	32.80	54.63
V	+ 0.22	30.54	34.74	55.74	+ 0.24	32.50	32.54	54.18
VI	0.45	30.75	34.56	55.46	0.48	32.80	32.28	53.73
VII	− 0.67	+ 2 30.96	− 2 34.38	− 2 55.19	+ 0.72	+ 2 33.10	− 2 32.02	− 2 53.28

The corrections for threads A, B, and *b* in the above table contain, besides the correction for inclination, the reduction to the middle pair of threads.

Collimation constant.—The collimation constant is determined by means of the collimators, without reversing the instrument.

The covers of the opening through the central cube of the telescope are removed, and the instrument turned until the horizontal thread in collimator A appears in the field at about 35 revolutions. Then by means of the screws acting against the Y's of collimator A, its vertical thread is moved until it is seen very near the image of C_3 in the telescope. Three measures of the small distance between C_3 and the image of the vertical thread in the collimator are then made with the right-ascention micrometer.

The telescope is then pointed to the zenith, and the micrometer of collimator B is moved until the intersection of its cross-threads is exactly on the image of the vertical thread of collimator A. The telescope is then pointed on collimator B, and four measures made of the distance between C_3 and the intersection of the cross-threads.

The telescope is again pointed to the zenith, and the adjustment of the vertical thread of collimator A on the cross-threads of collimator B is examined. If it is imperfect, it is readjusted, and another set of measures similar to the first is made. The mean of the first and last sets of measures is taken as the true distance of C_3 from the image of the vertical thread of collimator A. Care is taken to determine the value of c_0 when the temperature is changing very slowly.

In the computation of the constant from these data in 1881,

c_τ = the sum of the collimation constant at the temperature $\tau°$ Fahr., and the constant of diurnal aberration;

c_0 = the sum of the same constants at the temperature 0° Fahr.;

M = the distance, in micrometer revolutions, of the image of the vertical thread of collimator A *east* of C_3;

M′ = the distance, in micrometer revolutions, of the image of the intersection of the threads in collimator B *east* of C_3;

R = the value, in seconds of time, of one revolution of the micrometer-screw = $1^s.024$;

φ = the latitude of the Observatory;

i = the reduction of the position of C_3 to the mean of the set of nine threads = $+0^s.011$ during the year.

Then, if M and M′ have been observed at the temperature τ° Fahr.,

$$c_\tau = \tfrac{1}{2}(M + M')\,R - 0^s.021 \cos\varphi - i = 0^s.512\,(M + M') - 0^s.016 - i$$

In the Transit Circle the collimation varies with the temperature, and from a discussion of many observations, made at widely different temperatures, it has been found that

$$c_0 = c_\tau \mp 0^s.004\,\tau$$

where the upper sign is used when the clamp is east, and the lower when it is west.

As the value of c_0 has been found to be very steady throughout the year for several years, it is usually determined two or three times a month. For special observations on other days, the value of c_0 is obtained by interpolation, and from it, and the observed temperature at the time, the actual collimation constant is obtained from the formulæ

$$c_\tau = c_0 \pm 0^s.004\,\tau$$

For the final reduction of observations with the Transit Circle, a constant value of c_0 is used during the period that the thread C_3 remains undisturbed. The value used is the mean of all the values determined by observation. The adopted values of c_0 will be found at the head of Table A of this Introduction.

The level constant.—The instrument employed is a hanging level. Its tube is three-quarters of an inch in diameter, 10 inches long, and has a chamber at one end, so that the length of the bubble is adjustable. It seems to be most sensitive when its length is about 1.25 inches. The scale is numbered continuously from end to end, the numbers running from 0 to 90. The length of one division is about 0.09 inch and its value is $0^s.058$.

In using the level, it is always reversed twice, giving two readings with it direct and two with it reversed.

In computing the constant from the observations,

b = the level constant;

W and E = the sum of the two readings of the west and east ends of the bubble with the level in its first position;

w and e = the sum of the two readings of the west and east ends of the bubble with the level reversed;

Hence,

$$b = 0^s.00725\,[(W + E) - (w + e)]$$

When the $\left\{\begin{matrix}\text{west}\\ \text{east}\end{matrix}\right\}$ end of the bubble gives the greatest reading, the sign of b is $\left\{\begin{matrix}+\\ -\end{matrix}\right\}$

A very careful examination of the pivots with a spherometer caliper in January, 1878, indicates that they are sensibly round and equal in diameter.

The azimuth constant.—The azimuth constant is generally determined from the observed transit of one or more of the "azimuth stars"—Polaris, δ Ursæ Minoris, 51 Cephei, or λ Ursæ Minoris—by means of the formula

$$a = \frac{\alpha - (T + \Delta T + Bb + Cc)}{A}$$

where a, b, and c are the azimuth, level, and collimation constants; A, B, and C the azimuth, level, and collimation factors; α, the adopted right ascension of the star; T, its observed time of transit; and ΔT, the approximate clock correction at T. When the same star is observed, both above and below the pole, on the same observing day, the mean of the constants derived from those observations is adopted for the azimuth constant for that observing day.

If no star is observed above and below the pole, the adopted constant is the mean of the results obtained from such azimuth stars as have been observed.

If from any cause no azimuth stars are observed, the constant is derived from the observed places of all the known stars by the method of least squares.

The zenith point correction from nadir observations.—This constant is determined from observations of the nadir point with a Bohnenberger eye-piece in the following manner:

(1) The telescope is pointed downward over a box of mercury, set so that the circle reading is 179° 56′, and the four microscopes at circle B are read.

(2) Two readings of the zenith-distance micrometer are then taken by moving the close pair of micrometer threads until the space between them and their images, reflected from the mercury, appears equal to the distance between the two threads, the threads being nearer the head of the micrometer.

(3) Four readings of the micrometer are next made in the same way as before, except that the threads are placed the other side of the images.

(4) Two more readings of the micrometer are then made in the same manner as the first two, and the microscopes at circle B are again read.

The mean of the eight micrometer readings will give the reading for the coincidence of the two threads and their images.

The observations are reduced by means of the formula:

$$\text{Zenith point correction} = \left\{ \begin{array}{l} 180^\circ + \text{Division correction for circle B} \\ \quad + \text{Correction for flexure of circle B} \\ \quad + \text{Correction for flexure of telescope} \\ \quad - \text{Constant added to reduction to meridian} \end{array} \right\}$$

$$- \left\{ \begin{array}{l} 179^\circ\, 56 \pm 10 \text{ revolutions of micrometer microscopes.} \\ \quad \mp \text{Observed reading of micrometer microscopes.} \\ \quad + \text{Micrometer equivalent corresponding to the observed reading of the zenith distance micrometer} + 0^{r}.250. \end{array} \right\}$$

The values of the division and flexure corrections are found by means of the formulæ for reflection observations in Tables IV to VII. The constant added to the reduction to the meridian is 1″.80. In the terms relating to the micrometer microscopes, the upper signs are to be taken when the clamp is east and the lower when it is west.

The value of the first term in the expression for the zenith-point correction is a constant, and, in 1881, the different terms were obtained as follows:

In 1881 the clamp was west; circle B was used; the reading of the horizontal microscope, when the telescope was pointed to the zenith, was $49^\circ.1 = R_0$, and the distance of the nadir point from the reflected pole was $51^\circ.1 = \Delta$. With these data, Table V gives 49°.1 as the argument with which to enter Table IV to find the division correction +0″.06. With the same data, Table VI gives the correction for circle flexure — 0.07; and Table VII gives the correction for flexure of telescope — 0″.29 Hence, the

	°	′	″
Nadir constant is	180	0	0.00
Correction for errors of division is		+	0.06
Correction for flexure of circle is		—	0.07
Correction for flexure of telescope is		—	0.29
Constant added to reduction to meridian is		—	1.80
	179	59	57.90

The second term is simply the concluded circle reading.

The correction +0ʳ.250 to the reading of the zenith-distance micrometer is necessary, because the head of that micrometer has four indexes, and the one used in the nadir observation reads 0ʳ.250 less than that employed in other observations.

The adopted zenith-point corrections used in the reductions in 1881 will be found in Table D of this Introduction. These corrections were obtained, as in 1876, 1877, 1878, 1879, and 1880, by combining the results from nadir and reflection observations. The nadir observations were made in the usual way, and the divisions of circle B, on which the readings were actually made, were:

	°	′
For microscope I	184	4
For microscope II	274	4
For microscope III	4	4
For microscope IV	94	4

The microscopes were read both *before* and *after* the nadir observation, and the mean of these readings was adopted as the true reading.

From January 1 to May 13 *twenty-seven* observations *direct* and *reflected*, at the same transit, were made of stars *south* of the zenith and *thirty-two* of stars *north* of the zenith. The mean of the differences between the zenith-point corrections derived from observations of the nadir and of stars was, for *southern* stars, Nadir — Star = +0″.31, and for *northern* stars, Nadir — Star = +1″.26. From May 16 to December 31, from *seventy* observations of *southern* stars, the value of Nadir — Star = +0″.87, and from *ninety-two* observations of *northern* stars the value of Nadir — Star = +1″.19. An

examination of these individual values in groups comprising stars between 5° and 15°, 15° and 25°, 25° and 35°, and 35° and 45° Z. D. does not indicate any change in the correction, Nadir — Star depending on the zenith-distance.

The eye-end of the telescope was removed on May 13 in order to replace certain threads and the correction Nadir — Star is changed at that date.

Whenever nadir observations alone were made, the unmodified results were used as the zenith-point corrections. When corrections were obtained from both nadir and star observations, or from star observations alone, the values from stars were corrected by the above values of Nadir — Star, and the mean of all corrections obtained during a day or evening was adopted, giving equal weight to each value.

RESULTS OF OBSERVATIONS WITH THE TRANSIT CIRCLE.

In former volumes, from 1866 to 1876, inclusive, it has been the custom to print the observations with the Transit Circle in detail, but in the volumes since 1876 it has been deemed advisable, for many reasons, to change the system and to print only the *results* of the observations and reductions, and this plan has been followed in 1881.

These results will be found on pages 1 to 95.

RIGHT ASCENSIONS.

The *first* column contains the day of the observation, which begins with the transit of the sun. It also contains the initial of the observer, as follows:

E.—Professor J. R. EASTMAN, U. S. N.
S.—Assistant Astronomer A. N. SKINNER.
R.—Assistant Astronomer MILES ROCK.
W.—Assistant Astronomer W. C. WINLOCK.

The *second* column contains the reference number.

The *third* column contains the name of the object. In the case of the Sun, Moon, and Planets, the part observed is always specified; I and II indicating respectively the preceding and following limbs; N. and S., the north and south limbs; and C., the center. When only one component of a double star is observed, it is always the brighter of the two, unless otherwise designated.

The *fourth* column contains the observed magnitude.

The *fifth* column contains the number of threads over which transits were observed and used in the reductions.

The *sixth* column contains the minutes and seconds of the clock time of transit over the "mean thread," whose position is the mean of the standard set of nine threads. When stars are observed over other or less threads than the standard set, the recorded transit over each thread is reduced to the "mean thread" by means of the known thread intervals. In the case of other objects, the reduction of each thread is corrected for the motion of the object during the interval between each thread and the "mean thread."

The *seventh* column contains the sum of the instrumental corrections, or the quantity

$$Aa + Bb + Cc$$

where a, b, c are the constants, and A, B, C are the factors for azimuth, level, and collimation.

The formulæ for computing A, B, and C are:

$$A = \sin(\varphi - \delta)\sec\delta = \sin\varphi - \cos\varphi\tan\delta$$
$$B = \cos(\varphi - \delta)\sec\delta = \cos\varphi + \sin\varphi\tan\delta$$
$$C = \sec\delta$$

in which φ is the latitude of the Observatory, and δ is the declination of the object observed.

The reductions of transit observations with the Transit Circle are made by means of tables giving the values of Aa, Bb, and Cc for each degree of zenith distance, and for each $0^s.01$ of the constants a, b, c, from $0^s.01$ to $0^s.50$. These tables may be found in Appendix I to the Washington Observations for 1872.

A general table of the values of the factors A, B, and C may be found on page XLVII of the Introduction to the Transit Circle in 1873.

Table A, following this introduction, contains the adopted values of the instrumental constants for all occasions on which observations were made. The first column gives the mean date to the nearest tenth of a day. The second column gives the sidereal hour to the nearest tenth, for which the constants were computed or observed. The third, fourth, and fifth columns contain respectively the adopted value of the collimation, level, and azimuth constants. The value of c is assumed to vary uniformly with the time between the epochs at which it was determined each day. The value of b is taken as constant during such observing period. The value of a is generally assumed to be constant for each observing day. In rare instances, where a decided change is shown, different values are used for the day and night.

The *eighth* column contains the *apparent* and the *adopted* clock corrections. The apparent clock corrections are in full-faced type, and are derived from direct observations of stars of the American Ephemeris within 40° of the equator.

The adopted apparent right ascensions of these stars were obtained by applying the corrections given in Table B to the apparent right ascension of the American Ephemeris.

The clock corrections in the *eighth* column, printed in ordinary type, are derived from the data in Table C.

The principal work of the Transit Circle in 1881 has been upon the Sun, Moon, and Planets and miscellaneous stars, and it has been deemed unadvisable to attempt the determination of corrections in right ascension to the star-places of the American Ephemeris, as was done before 1876. Accordingly, in 1881, only such stars of the American Ephemeris were observed as were required to determine clock corrections and rates and instrumental corrections. Whenever possible, at least three stars were observed for clock corrections near the beginning and also near the end of the observing period on each day and each night. The mean of the corrections in each group was assumed to correspond with the mean of the times, and the hourly rate was determined for the period that the clock was in actual use. The corrections and rates are found in Table C, which requires no explanation.

By this method the personal equation of the observer was seldom involved, but it was determined as usual with the apparatus described in the volume for 1875, and the correction obtained and adopted in 1881 is given below with the proper sign for application to the observed time.

	— s.
Professor EASTMAN	—0.18
Assistant SKINNER	—0.02
Assistant ROCK	—0.04
Assistant WINLOCK	—0.31

The *twelfth* column contains the apparent right ascension of each object, or the sum of the *sixth*, *seventh* and *eighth* columns, and in all cases has reference to that part of the object which was actually observed.

The *thirteenth* column contains,

(1) The reduction for all miscellaneous stars to their mean position for the fictitious epoch 1881.0. This reduction is computed with the constants of the American Ephemeris, and no proper motion is applied.

(2) The sidereal time of the semi-diameter of the Sun, the Moon, or a planet passing the meridian, when only one limb is observed, as given in the American Ephemeris. In the case of the Sun, the Ephemeris time has been corrected for the personal equation of the observer, which was determined from all the observations of the year.

NORTH POLAR DISTANCE.

The *ninth* column contains the zenith-distance *south* of each object observed, as derived from circles A and B. This quantity, when the clamp is *east*, is equal to the reading of the horizontal microscope of circle A, minus the excess of the mean of the readings of the micrometer microscopes of circle B above *ten* revolutions. When the clamp is *west*, it is equal to $359^\circ\ 52'$, minus the reading of the horizontal microscope of circle A, plus the excess of the mean of the readings of the micrometer microscopes of circle B above *ten* revolutions.

The *tenth* column contains

(1) The micrometer equivalent.

(2) The reduction to the meridian.

(3) The correction for inclination of threads and motion of object.

(4) The correction for the thread employed in the bisections.

(5) The zenith-point correction.

(1) The micrometer equivalent of the readings of the zenith-distance micrometer if the clamp is east, is

$$2'\ 0''.0 + R\,(40^r.000 - r)$$

if the clamp is west, it is

$$4'\ 0''.0 - R\,(40^r.000 - r)$$

In these formulæ r is the mean of the readings of the zenith-distance micrometer, expressed in revolutions; R, the mean value of one revolution between r and 40.0 revolutions, and the numerical term is a constant added to make the zenith-point correction always positive.

In practice, the micrometer equivalents are taken from a table where the values are tabulated for each $0^r.01$ from $24^r.3$ to $47^r.8$.

Two bisections of each object observed were usually made with the declination micrometer. When, for any reason, any other number of bisections were made, the fact is noted at the foot of the page.

(2) The reduction to the meridian is computed from the formula

$$\mu = 1''.80 - 112.5 \sin 1'' \, i^2 \tan \delta$$
$$= 1''.80 - [6.7367] \, i^2 \tan \delta$$

where μ is the reduction to the meridian, in seconds of arc; i, the equatorial interval in seconds of time, between the mean thread and the thread at which the bisection was made; δ, the declination of the object; and $1''.80$ is a constant introduced to make μ generally positive. The values of μ are tabulated for all the vertical threads and for each degree of declination.

Where bisections are made away from the vertical threads, the time of the bisection is noted, and the correction is computed from the formula

$$\mu = 1''.80 - [6.4357] \, I^2 \sin 2 \delta$$

where I represents the distance of the object from the meridian at the time of bisection, and the other terms are the same as before.

(3) The corrections for inclination of threads given on pages XXVIII and 3 were derived from a large number of observations at threads I and VII. The correction for motion of object in unsymmetrical observations is computed from the formula

$$\Delta' = \frac{\Delta}{3600} I$$

where Δ' is the correction for motion, and Δ the hourly motion of the object in declination, both expressed in seconds of arc; I is the interval, in seconds of time, between the mean thread and the thread at which the bisection was made.

(4) In observations where threads A or B where employed, the correction for the distance of the thread from the central pair of threads was required, and the value of this correction is found on pages XXVIII and 3.

(5) The zenith-point correction is taken directly from Table D, and it is also given for each date at the bottom of each page.

The sum of the quantities in columns *nine* and *ten* gives the *apparent zenith distance south.*

The *eleventh* column contains the correction for refraction computed from Bessel's formula, employing the tables given in the Appendix to the Washington Observations for 1845.

The *fourteenth* column contains the apparent north polar distance of each object, or the adopted co-latitude, $51° \, 6' \, 21''.2 \pm$ the sum of the apparent zenith distance south and the refraction. The upper sign is employed for a direct, and the lower for a reflected observation.

The *fifteenth* column contains:

(1) For stars whose apparent positions are given in the American Ephemeris, the correction to the north polar distance of the Ephemeris obtained from each observation.

(2) For others stars, the reduction to their mean position for the fictitious epoch 1881.0. This reduction is computed with the constants of the American Ephemeris, and no proper motion is applied.

(3) For the asteroids, the correction for parallax, computed from the data accompanying the ephemerides.

The corrections for parallax, semi-diameter, and defective illumination for the Sun, Moon, and larger planets are given at the foot of the pages containing the observations.

The readings of the barometer, the attached thermometer, and the external thermometer are given at the foot of each page.

All corrections for parallax, except those for the asteroids, are computed from the data contained in the American Ephemeris. When both limbs of an object were observed, the semi-diameter is derived from the observation; but when only one limb was observed, the semi-diameter is taken from the American Ephemeris.

The corrections for defective illumination are computed from the data of the American Ephemeris.

CORRECTIONS TO THE STAR-POSITIONS OF THE AMERICAN EPHEMERIS IN NORTH POLAR DISTANCE, GIVEN BY INDIVIDUAL OBSERVATIONS WITH THE TRANSIT CIRCLE IN 1881.

The tables containing these corrections may be found on pages 121 to 136, and give the date of the observation, the initial of the observer, and the correction for each observation in north polar distance, copied without change except for erroneous micrometer revolutions, from the last column of the pages of the observations.

An interrogation mark signifies that the result is doubtful, and an *r*, that it is rejected in the determination of the adopted mean result.

The mean polar distances thus found still require the following corrections:

(1) For errors of division;
(2) For flexure;
(3) For error in zenith-point correction;
(4) For error in assumed latitude.

Errors of division.—The corrections for errors of division of circle B were determined in November and December, 1865. These corrections are given in the following table,[1] which contains the correction to be applied to the mean of the readings of the four microscopes in order to free this mean from the effect of errors of division. The argument with which to enter the table is the reading of the horizontal microscope at circle B.

[1] Washington Observations for 1865, Description of Transit Circle, § 72.

TABLE IV.—*Corrections for Errors of Division to be applied to the Mean of the Readings of the Four Micrometer Microscopes of Circle B.*

Arg.	Corrections.	Arg.	Corrections.	Arg.	Corrections.	Arg.	Corrections.	Arg.	Corrections.
°	″	°	″	°	″	°	″	°	″
0	+ 0.30	18	+ 0.57	36	+ 0.12	54	+ 0.14	72	+ 0.27
1	+ 0.23	19	+ 0.52	37	+ 0.15	55	+ 0.15	73	+ 0.28
2	+ 0.18	20	+ 0.48	38	+ 0.14	56	+ 0.16	74	+ 0.31
3	+ 0.18	21	+ 0.49	39	+ 0.08	57	+ 0.17	75	+ 0.35
4	+ 0.22	22	+ 0.52	40	+ 0.02	58	+ 0.19	76	+ 0.40
5	+ 0.27	23	+ 0.53	41	− 0.07	59	+ 0.20	77	+ 0.45
6	+ 0.27	24	+ 0.50	42	− 0.12	60	+ 0.22	78	+ 0.46
7	+ 0.26	25	+ 0.46	43	− 0.13	61	+ 0.26	79	+ 0.45
8	+ 0.26	26	+ 0.44	44	− 0.07	62	+ 0.28	80	+ 0.44
9	+ 0.27	27	+ 0.42	45	− 0.01	63	+ 0.27	81	+ 0.41
10	+ 0.29	28	+ 0.40	46	0.00	64	+ 0.25	82	+ 0.38
11	+ 0.29	29	+ 0.34	47	0.00	65	+ 0.22	83	+ 0.36
12	+ 0.29	30	+ 0.27	48	0.00	66	+ 0.22	84	+ 0.36
13	+ 0.36	31	+ 0.24	49	0.06	67	+ 0.22	85	+ 0.36
14	+ 0.44	32	+ 0.22	50	+ 0.12	68	+ 0.22	86	+ 0.40
15	+ 0.52	33	+ 0.19	51	+ 0.12	69	+ 0.23	87	+ 0.44
16	+ 0.56	34	+ 0.15	52	+ 0.12	70	+ 0.24	88	+ 0.41
17	+ 0.57	35	+ 0.11	53	+ 0.13	71	+ 0.25	89	+ 0.37

The corrections in this table are only applicable when the microscopes are 90° apart, and their supporting arms make an angle of 45° with the vertical.

The following table gives the argument, in all cases, with which to enter Table IV to obtain the division correction which must be applied to an observed north polar distance. In this table, R_0 is the reading of the horizontal microscope at circle B when the telescope points to the zenith; Δ is the observed north polar distance of the object, and the last column indicates the use of the sign of the correction in Table IV.

The argument will, of course, be brought into the first quadrant.

TABLE V.

Clamp.	Observation.	Argument.	Sign of Correction.
East	Direct	$R_0 + 51.1 - \Delta$	Changed
	Reflected	$R_0 + 38.9 + \Delta$	Same
West	Direct	$R_0 + 38.9 + \Delta$	Same
	Reflected	$R_0 + 51.1 - \Delta$	Changed

Flexure.—The correction to an observed circle reading for flexure of circle[1] is, for circle B, $+0''.84 \sin R - 0''.86 \cos R$, where R is the reading of the horizontal micro-

[1] Washington Observations, 1865, Description of Transit Circle, § 61.

scope when the telescope is pointed to the object. Changing the expression for the correction for flexure of circle, so that the correction will be a function of the north polar distance, we have the following table for circle B:

TABLE VI.

Clamp.	Observation.	Correction.
East	Direct	$-1.20 \sin (R_0 + 5.4 - \Delta)$
	Reflected	$+1.20 \sin (R_0 + 83.2 + \Delta)$
West	Direct	$+1.20 \sin (R_0 + 263.2 + \Delta)$
	Reflected	$-1.20 \sin (R_0 + 185.4 - \Delta)$

where the quantities have the same significance as in Table V.

From observations[1] made in 1872 and 1873, the following formulæ were obtained for determining the correction to be applied to an observed north polar distance for the effect of flexure of telescope and curvature of level for circle B:

TABLE VII.

Clamp.	Observation.	Correction.
East	Direct	$-0.95 \sin (\Delta - 33.3)$
	Reflected	$+1.10 \sin (\Delta - 66.4)$
West	Direct	$-0.95 \sin (\Delta - 68.9)$
	Reflected	$+1.10 \sin (\Delta - 35.8)$

The correction for constant error in the zenith-point is obtained from a comparison of the direct and reflected observations in 1881. Observations were not used in this discussion except when the star was observed direct and reflected at the same transit.

The method of obtaining the value of this correction is shown in Table VIII, where the results of the observations are collected. In this table, the first column contains the names of all the stars observed by reflection in 1881. The second column contains the right ascension to the nearest tenth of an hour. The third column contains the mean values of the north polar distances as given by direct observations; and the fourth column contains the seconds of the mean values obtained from reflected observations. The small subscript figures indicate the number of observations made on each star. The fifth column contains the difference between the direct and reflected observations. The sixth column contains the corrections which must be applied to the quantities in the fifth column on account of the errors of graduation and flexure of

[1] Introduction to Transit Circle, Washington Observations, 1872, page lxiv.

telescope and circle. The seventh column contains the sums of the quantities in the fifth and sixth columns.

The eighth column contains the weights of the values of 2 ΔZ in the seventh column. As there are the same number of observations reflected as direct, the weight assigned is simply the square root of the number of observations.

The ninth column contains the products of the quantities in the seventh column by their respective weights, and the final results are:

From observations north of the zenith.....$\Delta Z = +\ 0''.95$
From observations south of the zenith.....$\Delta Z = +\ 0''.37$

TABLE VIII.—*Computation of the Value of ΔZ from Observations in* 1881.

NORTHERN STARS.

Name of Star.	α	Observed N. P. Distance. Direct.	Observed N. P. Distance. Reflected.	D.– R.	Corr. to D.– R.	$2\Delta Z$	p	$2p\Delta Z$
	h.	° ′ ″	″	″	″	″		″
32² Camelopardalis . . .	12.8	5 56 24.36	23.26₁	+ 1.10	— 0.76	+ 0.34	1.00	+ 0.34
ε Ursæ Minoris	17.0	7 46 10.21	7.96₂	+ 2.25	— 0.75	+ 1.50	1.41	+ 2.12
1 Draconis	9.3	8 8 60.80	57.30₁	+ 3.50	— 0.75	+ 2.75	1.00	+ 2.75
4 Draconis	12.1	11 43 23.66	22.16₂	+ 1.50	— 0.97	+ 0.53	1.41	+ 0.75
κ Cephei	20.2	12 38 54.07	51.21₂	+ 2.86	— 1.00	+ 1.86	1.73	+ 3.22
48 Cephei	3.1	12 42 20.51	17.75₂	+ 2.76	— 1.00	+ 1.76	1.73	+ 3.04
9 Draconis	10.4	13 40 30.24	28.47₂	+ 1.77	— 0.97	+ 0.80	1.73	+ 1.38
226 Cephei	22.5	14 23 14.28	11.18₁	+ 3.10	— 0.97	+ 2.13	1.00	+ 2.13
β Ursæ Minoris	14.9	15 21 31.12	28.09₂	+ 3.03	— 1.03	+ 2.00	1.73	+ 3.46
Groombridge 4163 . .	23.8	16 15 9.36	6.40₂	+ 2.96	— 1.07	+ 1.89	1.73	+ 3.27
τ Draconis	19.3	16 51 59.08	57.53₂	+ 1.55	— 1.12	+ 0.43	1.41	+ 0.61
50 Cassiopeæ	1.9	18 9 22.17	20.34₂	+ 1.83	— 1.18	+ 0.65	1.73	+ 1.12
κ Draconis	12.5	19 33 21.76	19.43₂	+ 2.33	— 1.22	+ 1.11	1.73	+ 1.92
ε Draconis	19.8	20 2 8.86	5.16₁	+ 3.70	— 1.23	+ 2.47	1.00	+ 2.47
B. A. C. 3652	10.6	20 18 8.70	4.30₁	+ 4.40	— 1.23	+ 3.17	1.00	+ 3.17
22 Camelopardalis . . .	6.1	20 38 29.56	27.56₁	+ 2.00	— 1.19	+ 0.81	1.00	+ 0.81
A Draconis	16.5	20 58 29.99	27.49₁	+ 2.50	— 1.18	+ 1.32	1.00	+ 1.32
3 Ursæ Majoris	8.0	21 10 43.65	39.35₁	+ 4.30	— 1.18	+ 3.12	1.00	+ 3.12
ω Draconis	17.6	21 11 17.17	12.67₂	+ 4.50	— 1.18	+ 3.32	1.41	+ 4.68
σ² Ursæ Majoris	9.0	22 22 64.15	59.50₂	+ 4.65	— 1.15	+ 3.50	1.41	+ 4.94
o Cephei	23.2	22 32 24.07	20.42₂	+ 3.65	— 1.14	+ 2.51	1.41	+ 3.54
δ Draconis	19.2	22 32 54.13	51.17₂	+ 2.96	— 1.14	+ 1.82	1.73	+ 3.15
α Camelopardalis . . .	4.7	23 51 44.68	41.78₁	+ 2.90	— 1.14	+ 1.76	1.00	+ 1.76
32 Ursæ Majoris	10.2	24 17 56.78	52.08₂	+ 4.70	— 1.12	+ 3.58	1.41	+ 5.05
ι Cephei	22.8	24 25 33.34	31.28₂	+ 2.06	— 1.11	+ 0.95	1.73	+ 1.64

TABLE VIII.—*Computation of the Value of ΔZ*—Continued.

NORTHERN STARS—Continued.

Name of Star.	a	Observed N. P. Distance. Direct.	Observed N. P. Distance. Reflected.	D. – R.	Corr. to D.– R.	2ΔZ	p	2pΔZ
	h.	° ′ ″	″	″	″	″		″
α Draconis	14.0	25 3 20.65	17.25$_1$	+ 3.40	— 1.08	+ 2.32	1.00	+ 2.32
B. A. C. 6905	20.0	25 30 45.30	41.80$_1$	+ 3.50	— 1.03	+ 2.47	1.00	+ 2.47
α Ursæ Majoris	10.9	27 36 26.74	24.20$_8$	+ 2.54	— 0.90	+ 1.64	2.83	+ 4.64
B. A. C. 126	0.4	27 43 32.70	30.70$_1$	+ 2.00	— 0.90	+ 1.10	1.00	+ 1.10
α Cephei	21.3	27 55 7.52	4.82$_3$	+ 2.70	— 0.88	+ 1.82	1.73	+ 3.15
η Draconis	16.4	28 12 60.09	57.89$_1$	+ 2.20	— 0.88	+ 1.32	1.00	+ 1.32
B. A. C. 7220	20.7	28 37 25.60	21.20$_1$	+ 4.40	— 0.85	+ 3.55	1.00	+ 3.55
B. A. C. 1536	4.9	29 44 4.30	1.30$_1$	+ 3.00	— 0.81	+ 2.19	1.00	+ 2.19
B. A. C. 253	0.8	29 55 43.80	40.40$_1$	+ 3.40	— 0.80	+ 2.60	1.00	+ 2.60
B. A. C. 1849	5.7	30 8 30.22	25.78$_4$	+ 4.44	— 0.79	+ 3.65	2.00	+ 7.30
B. A. C. 3346	9.7	30 24 11.50	8.40$_1$	+ 3.10	— 0.78	+ 2.32	1.00	+ 2.32
B. A. C. 5097	15.4	30 36 62.90	58.50$_1$	+ 4.40	— 0.75	+ 3.65	1.00	+ 3.65
B. A. C. 4123	12.2	32 18 22.40	20.50$_1$	+ 1.90	— 0.62	+ 1.28	1.00	+ 1.28
B. A. C. 7749	22.1	32 23 8.30	4.97$_3$	+ 3.33	— 0.62	+ 2.71	1.73	+ 4.69
B. A. C. 4335	12.8	33 23 39.00	38.80$_1$	+ 0.20	— 0.59	— 0.39	1.00	— 0.39
B. A. C. 7643	21.8	33 57 9.06	7.02$_6$	+ 2.04	— 0.57	+ 1.47	2.24	+ 3.29
α Cassiopeæ	0.6	34 6 57.93	54.87$_3$	+ 3.06	— 0.57	+ 2.49	1.73	+ 4.31
γ Ursæ Majoris	11.8	35 38 38.95	38.25$_2$	+ 0.70	— 0.51	+ 0.19	1.41	+ 0.27
ϑ Bootis	14.4	37 35 57.46	55.33$_4$	+ 2.13	— 0.50	+ 1.63	2.00	+ 3.26
β Draconis	17.5	37 36 38.52	35.78$_3$	+ 2.74	— 0.50	+ 2.24	1.73	+ 3.88
γ Draconis	17.9	38 29 50.75	48.10$_2$	+ 2.65	— 0.50	+ 2.15	1.41	+ 3.03
B. A. C. 79	0.3	38 38 25.48	23.10$_5$	+ 2.38	— 0.50	+ 1.88	2.24	+ 4.21
B. A. C. 1254	4.0	39 58 26.20	23.90$_1$	+ 2.30	— 0.46	+ 1.84	1.00	+ 1.84
B. A. C. 6734	19.6	40 3 16.40	13.00$_1$	+ 3.40	— 0.46	+ 2.94	1.00	+ 2.94
η Ursæ Majoris	13.7	40 5 34.48	32.00$_4$	+ 2.48	— 0.45	+ 2.03	2.00	+ 4.06
α Persei	3.3	40 33 52.29	50.99$_1$	+ 1.30	— 0.38	+ 0.92	1.00	+ 0.92
B. A. C. 4980	15.0	41 23 21.00	17.20$_1$	+ 3.80	— 0.33	+ 3.47	1.00	+ 3.47
2 Ursæ Majoris	8.9	41 29 33.76	31.41$_2$	+ 2.35	— 0.32	+ 2.03	1.41	+ 2.86
B. A. C. 3981	11.7	41 33 41.00	38.80$_2$	+ 2.20	— 0.30	+ 1.90	1.41	+ 2.68
B. A. C. 1287	4.1	41 53 43.05	41.40$_2$	+ 1.65	— 0.29	+ 1.36	1.41	+ 1.92
τ Herculis	16.3	43 24 10.18	7.88$_1$	+ 2.30	— 0.15	+ 2.15	1.00	+ 2.15
α Cygni	20.6	45 8 41.70	40.33$_7$	+ 1.37	— 0.07	+ 1.30	2.65	+ 3.44
								ΔZ = + 0.95

TABLE VIII.—*Computation of the Value of ΔZ*—Continued.

SOUTHERN STARS.

Name of Star.	α	Observed N. P. Distance. Direct.	Observed N. P. Distance. Reflected.	D.—R.	Corr. to D.—R.	2ΔZ	p	2pΔZ
	h.	° ′ ″	″	″	″	″		″
B. A. C. 6491	18.9	57 28 23.00	21.70$_1$	+ 1.30	+ 0.01	+ 1.31	1.00	+ 1.31
B. A. C. 5604	16.6	58 10 53.40	52.10$_1$	+ 1.30	+ 0.01	+ 1.31	1.00	+ 1.31
ζ Persei	3.8	58 28 18.22	17.07$_3$	+ 1.15	0.00	+ 1.15	1.41	+ 1.62
B. A. C. 5731	16.9	58 53 52.13	51.17$_3$	+ 0.96	− 0.03	+ 0.93	1.73	+ 1.61
ρ Bootis	14.4	59 6 23.09	20.59$_1$	+ 2.50	− 0.03	+ 2.47	1.00	+ 2.47
B. A. C. 8206	23.5	59 19 54.80	52.90$_1$	+ 1.90	− 0.06	+ 1.84	1.00	+ 1.84
B. A. C. 166	0.5	59 47 28.10	26.83$_3$	+ 1.27	− 0.10	+ 1.17	1.73	+ 2.02
ζ Cygni	21.1	60 15 40.08	35.48$_1$	+ 4.60	− 0.14	+ 4.46	1.00	+ 4.46
B. A. C. 7923	22.6	60 24 4.72	3.42$_4$	+ 1.30	− 0.15	+ 1.15	2.00	+ 2.30
B. A. C. 4195	12.4	61 4 11.60	10.10$_3$	+ 1.50	− 0.20	+ 1.30	1.41	+ 1.83
β Tauri	5.3	61 29 41.47	40.37$_1$	+ 1.10	− 0.24	+ 0.86	1.00	+ 0.86
α Andromedæ	0.0	61 33 62.69	59.79$_1$	+ 2.90	− 0.23	+ 2.67	1.00	+ 2.67
B. A. C. 7256	20.8	62 23 41.30	40.00$_1$	+ 1.30	− 0.30	+ 1.00	1.00	+ 1.00
B. A. C. 8032	23.0	62 33 46.90	44.70$_1$	+ 2.20	− 0.30	+ 1.90	1.00	+ 1.90
B. A. C. 872	2.7	63 13 53.45	51.55$_3$	+ 1.90	− 0.31	+ 1.59	1.41	+ 2.24
Weissi (2) 496	22.4	63 50 43.10	40.80$_1$	+ 2.30	− 0.30	+ 2.00	1.00	+ 2.00
α Arietis	2.0	67 6 4.97	4.37$_4$	+ 0.60	− 0.28	+ 0.32	2.00	+ 0.64
δ Geminorum	7.2	67 48 1.10	0.70$_1$	+ 0.40	− 0.29	+ 0.11	1.00	+ 0.11
δ Leonis	11.1	68 49 28.85	27.95$_3$	+ 0.90	− 0.32	+ 0.58	1.41	+ 0.82
B. A. C. 1767	5.5	68 55 54.10	54.70$_1$	− 0.60	− 0.33	− 0.93	1.00	− 0.93
η Cancri	8.4	69 9 19.74	20.84$_1$	− 1.10	− 0.33	− 1.43	1.00	− 1.43
ζ Arietis	3.1	69 23 52.95	52.95$_1$	0.00	− 0.33	− 0.33	1.00	− 0.33
β Arietis	1.8	69 46 28.64	27.84$_1$	+ 0.80	− 0.34	+ 0.46	1.00	+ 0.46
B. A. C. 1939	5.9	69 51 38.10	37.85$_3$	+ 0.25	− 0.34	− 0.09	1.41	− 0.13
α Bootis	14.2	70 11 52.09	51.62$_4$	+ 0.47	− 0.35	+ 0.12	2.00	+ 0.24
1 Pegasi	21.3	70 42 16.68	14.63$_3$	+ 2.05	− 0.39	+ 1.66	1.41	+ 2.34
η Bootis	13.8	71 0 20.15	18.20$_3$	+ 1.95	− 0.41	+ 1.54	1.41	+ 2.17
ε Tauri	4.4	71 5 8.03	6.23$_3$	+ 1.80	− 0.42	+ 1.38	1.41	+ 1.95
α Tauri	4.5	73 43 54.69	53.39$_1$	+ 1.30	− 0.52	+ 0.78	1.00	+ 0.78
B. A. C. 7149	20.6	74 30 27.37	25.40$_3$	+ 1.97	− 0.54	+ 1.43	1.73	+ 2.47
β Leonis	11.7	74 45 47.08	46.45$_3$	+ 0.63	− 0.56	+ 0.07	1.73	+ 0.12
α¹ Herculis	17.2	75 28 23.74	22.44$_3$	+ 1.30	− 0.58	+ 0.72	1.41	+ 1.02
γ Pegasi	0.1	75 28 42.67	42.17$_1$	+ 0.50	− 0.58	− 0.08	1.00	− 0.08
B. A. C. 2129	6.4	75 45 16.80	17.10$_1$	− 0.30	− 0.60	− 0.90	1.00	− 0.90
ζ Aquilæ	19.0	76 18 45.17	44.27$_1$	+ 0.90	− 0.64	+ 0.26	1.00	+ 0.26
α Leonis	10.0	77 27 6.64	7.34$_1$	− 0.70	− 0.70	− 1.40	1.00	− 1.40
B. A. C. 4367	12.9	78 24 3.40	2.70$_1$	+ 0.70	− 0.73	− 0.03	1.00	− 0.03
ε Delphini	20.5	79 6 4.11	0.61$_1$	+ 3.50	− 0.74	+ 2.76	1.00	+ 2.76
B. A. C. 4271	12.6	79 6 30.42	29.25$_4$	+ 1.17	− 0.74	+ 0.43	2.00	+ 0.86
γ Aquilæ	19.7	79 40 33.58	32.18$_1$	+ 1.40	− 0.74	+ 0.66	1.00	+ 0.66

TABLE VIII.—*Computation of the Value of ΔZ*—Continued.

SOUTHERN STARS—Continued.

Name of Star.	α	Observed N. P. Distance. Direct.	Observed N. P. Distance. Reflected.	D.—R.	Corr. to D.—R.	2ΔZ	p	2pΔZ
	h.	° ′ ″	″	″	″	″		″
κ Ophiuchi	16.9	80 26 20.71	20.11$_1$	+ 0.60	— 0.74	— 0.14	1.00	— 0.14
ο Virginis	12.0	80 36 22.28	22.68$_3$	— 0.40	— 0.74	— 1.14	1.41	— 1.61
ε Pegasi	21.6	80 40 13.62	12.12$_3$	+ 1.50	— 0.74	+ 0.76	1.41	+ 1.07
B. A. C. 3415	9.9	81 23 8.10	9.10$_1$	— 1.00	— 0.77	— 1.77	1.00	— 1.77
α Aquilæ	19.7	81 26 42.89	40.29$_1$	+ 2.60	— 0.77	+ 1.83	1.00	+ 1.83
α Orionis	5.8	82 37 0.79	0.21$_4$	+ 0.58	— 0.76	— 0.18	2.00	— 0.36
ε Hydræ	8.7	83 8 44.80	44.15$_3$	+ 0.65	— 0.75	— 0.10	1.41	— 0.14
α Canis Minoris	7.6	84 28 17.34	17.74$_1$	— 0.40	— 0.69	— 1.09	1.00	— 1.09
B. A. C. 5893	17.3	85 45 19.40	18.50$_1$	+ 0.90	— 0.59	+ 0.31	1.00	+ 0.31
δ Aquilæ	19.3	87 7 17.72	18.22$_1$	— 0.52	— 0.47	— 0.99	1.00	— 0.99
γ Ceti	2.6	87 15 61.90	59.50$_1$	+ 2.40	— 0.46	+ 1.94	1.00	+ 1.94
π Aquarii	22.3	89 13 35.26	33.86$_1$	+ 1.40	— 0.47	+ 0.93	1.00	+ 0.93
υ Leonis	11.5	90 10 1.37	1.37$_1$	0.00	— 0.45	— 0.45	1.00	— 0.45
B. A. C. 3303	9.6	90 36 12.50	11.25$_3$	+ 1.25	— 0.40	+ 0.85	1.41	+ 1.20
α Aquarii	22.0	90 53 52.26	49.36$_3$	+ 2.90	— 0.36	+ 2.54	1.73	+ 4.39
ε Orionis	5.5	91 16 45.50	45.30$_3$	+ 0.20	— 0.34	— 0.14	1.41	— 0.20
κ Aquilæ	19.5	97 17 28.34	26.84$_3$	+ 1.50	— 0.15	+ 1.35	1.73	+ 2.34
β Orionis	5.1	98 20 27.27	26.37$_1$	+ 0.90	— 0.15	+ 0.75	1.00	+ 0.75
θ Aquarii	22.2	98 22 33.52	31.22$_1$	+ 2.30	— 0.15	+ 2.15	1.00	+ 2.15
μ Aquarii	20.8	99 25 45.29	44.24$_4$	+ 1.05	— 0.18	+ 0.87	2.00	+ 1.74
								ΔZ=+0.37

The correction for error of assumed latitude is derived from a comparison of the observations of the same stars, both above and below the pole. Table IX exhibits the method of obtaining the value of the correction $\Delta\varphi$. The *sixth* column contains the sum of the corrections for the errors of division, flexure, and assumed zenith point.

The *eighth* column contains the weights of the values of $2\,\Delta\varphi$ in the *seventh* column. The weights are computed by the formula

$$p = \frac{12\,m\,n}{2\,m\,n + 11\,(m+n)}$$

where p is the weight, m the number of observations above the pole, and n the number of observations below the pole.

The other columns will require no explanation.

From this table, it is found that $\Delta\varphi = -0''.25$.

TABLE IX.—*Computation of the value of $\Delta\varphi$ from observations in* 1881.

Name of Star.	a	Observed N. P. Distance. Culmination. Upper.	Lower.	U. + L. −360°.	Corr. to U. + L. −360°.	$2\Delta\phi$	p	$2p\Delta\phi$
	h.	° ′ ″	″	″	″	″		″
λ Ursæ Minoris	19.7	1 3 17.15_{35}	47.44_{6}	+ 4.59	− 3.38	+ 1.21	2.59	+ 3.13
Polaris	1.3	1 19 33.42_{61}	29.27_{47}	+ 2.69	3.38	− 0.69	4.90	− 3.38
51 Cephei	6.7	2 46 19.82_{18}	44.03_{27}	+ 3.85	3.43	+ 0.42	3.98	+ 1.67
δ Ursæ Minoris	18.2	3 23 27.56_{35}	35.40_{14}	+ 2.96	3.49	− 0.53	3.72	− 1.97
32ª Camelopardalis . . .	12.8	5 56 24.36_{1}	37.18_{6}	+ 1.54	3.61	− 2.07	0.79	− 1.64
ε Ursæ Minoris	17.0	7 46 10.33_{4}	49.64_{2}	− 0.03	− 3.55	− 3.58	1.17	− 4.19
1 Draconis	9.3	8 9 1.03_{3}	3.10_{2}	+ 4.13	3.55	+ 0.58	1.28	+ 0.74
12 Year Cat. 1879. . . .	20.9	9 53 42.45_{2}	19.20_{2}	+ 1.65	3.57	− 1.92	0.92	− 1.77
4 Draconis	12.1	11 43 22.51_{7}	42.19_{2}	+ 4.70	3.72	+ 0.98	1.66	+ 1.63
48 Cephei	3.1	12 42 20.36_{4}	44.57_{4}	+ 4.93	3.76	+ 1.17	1.60	+ 1.87
γ Cephei	23.6	13 1 56.25_{4}	6.14_{6}	+ 2.39	− 3.76	− 1.37	1.73	− 2.37
9 Draconis	10.4	13 40 30.44_{4}	31.43_{2}	+ 1.87	3.72	− 1.85	1.43	− 2.65
Groombridge 966. . .	5.4	15 2 19.56_{2}	43.60_{7}	+ 3.16	3.62	− 0.46	1.33	− 0.61
β Ursæ Minoris	14.9	15 21 30.87_{14}	31.21_{1}	+ 2.08	3.71	− 1.63	0.87	− 1.42
Groombridge 4163 . .	23.8	16 15 8.49_{9}	56.07_{2}	+ 4.56	3.58	+ 0.98	1.37	+ 1.34
79 Draconis	21.9	16 51 40.00_{4}	21.95_{1}	+ 1.95	− 3.57	− 1.62	0.76	− 1.23
γ² Ursæ Minoris	15.3	17 44 34.14_{4}	28.86_{4}	+ 3.00	3.55	− 0.55	1.60	− 0.88
Groombridge 3241 . .	20.5	17 52 20.14_{4}	44.04_{1}	+ 4.18	3.55	+ 0.63	0.76	+ 0.48
50 Cassiopeæ.	1.9	18 9 22.04_{4}	42.71_{2}	+ 4.75	3.55	+ 1.20	1.17	+ 1.40
11 Cephei	21.7	19 14 11.90_{2}	50.93_{1}	+ 2.83	3.51	− 0.68	0.72	− 0.49
κ Draconis	12.5	19 33 21.19_{7}	41.47_{2}	+ 2.66	− 3.48	− 0.82	1.33	− 1.09
λ Draconis	11.4	20 0 45.54_{6}	16.38_{6}	+ 1.92	3.46	− 1.54	1.99	− 3.06
22 Camelopardalis. . . .	6.1	20 38 29.06_{2}	32.96_{6}	+ 2.02	3.45	− 1.43	1.29	− 1.84
3 Ursæ Majoris	8.0	21 10 43.65_{1}	21.58_{2}	+ 5.23	3.44	+ 1.79	0.72	+ 1.29
Piazzi VII, 67	7.3	21 17 39.27_{1}	23.83_{2}	+ 3.10	3.44	− 0.34	0.65	− 0.22
σ² Ursæ Majoris	9.0	22 23 4.23_{4}	58.67_{8}	+ 2.90	− 3.41	− 0.51	1.96	− 1.00
δ Draconis	19.2	22 32 52.80_{11}	9.40_{1}	+ 2.20	3.39	− 1.19	0.86	− 1.02
α Camelopardalis. . . .	4.7	23 51 44.78_{4}	17.27_{2}	+ 2.05	3.30	− 1.25	1.17	− 1.46
32 Ursæ Majoris	10.2	24 17 56.81_{3}	4.42_{3}	+ 1.23	3.27	− 2.04	1.28	− 2.61
ι Cephei	22.8	24 25 32.40_{14}	28.09_{1}	+ 0.49	3.25	− 2.76	0.87	− 2.40
α Draconis	14.0	25 3 19.46_{7}	42.50_{3}	+ 1.96	− 3.21	− 1.25	1.33	− 1.66
α Ursæ Majoris	10.9	27 36 26.56_{21}	37.72_{1}	+ 4.28	3.13	+ 1.15	0.88	+ 1.01
α Cephei	21.3	27 55 7.53_{18}	55.30_{6}	+ 2.83	3.11	− 0.28	2.56	− 0.72
η Draconis	16.4	28 13 0.09_{1}	1.81_{1}	+ 1.90	− 3.10	− 1.20	0.50	− 0.60
								$\Delta\phi = -0''.25$

Collecting the results from all the available data, the total systematic correction to be applied to an observed north polar distance in 1881 is:

For objects *north* of the zenith:

Observed directly - - Corr. = Div. Corr. $+ 0''.47 \sin (258^\circ.0 + \Delta) - 0''.95 + 0''.25$
Observed by reflection Corr. = Div. Corr. $+ 0''.39 \sin (198^\circ.2 + \Delta) + 0''.95 + 0''.25$

For objects *south* of the zenith:

Observed directly - - Corr. = Div. Corr. $+ 0''.47 \sin (258^\circ.0 + \Delta) - 0''.37 + 0''.25$
Observed by reflection Corr. = Div. Corr. $+ 0''.39 \sin (198^\circ.2 + \Delta) + 0''.37 + 0''.25$

The numerical values of these expressions are given in Table X with the argument north polar distance. The *second* column contains the corrections for the errors in the division of circle B. The *third* column contains the sums of the corrections for flexure of circle B, flexure of telescope, effect of gravity on the zenith-distance micrometer, and, in the case of reflection observations, curvature of the surface of the mercury. The *fourth* column contains the sum of the corrections for errors in the assumed latitude and constant error in the zenith point.

As the computed value of ΔZ is not the same for northern as for southern objects, to avoid an abrupt change at the zenith, the value is gradually changed between 46° and 56° north polar distance. The *fifth* column contains the sum of all the corrections.

TABLE X.—*Systematic Corrections to be applied to the North Polar Distances of objects observed with the Transit Circle in* 1881.

DIRECT OBSERVATIONS.

N. P. D.	Division Correction.	Flexure Correction.	$\Delta Z + \Delta\phi$	Total.	N. P. D.	Division Correction.	Flexure Correction.	$\Delta Z + \Delta\phi$	Total.
°	″	″	″	″	°	″	″	″	″
0	− 0.29	− 0.46	− 0.70	− 1.45	15	− 0.37	− 0.47	− 0.70	− 1.54
1	.27	.46	.70	1.43	16	.36	.47	.70	1.53
2	.26	.46	.70	1.42	17	.36	.47	.70	1.53
3	.26	.46	.70	1.42	18	.38	.47	.70	1.55
4	.27	.47	.70	1.44	19	.40	.47	.70	1.57
5	− 0.27	− 0.47	− 0.70	− 1.44	20	− 0.43	− 0.47	− 0.70	− 1.60
6	.23	.47	.70	1.40	21	.45	.46	.70	1.61
7	.19	.47	.70	1.36	22	.46	.46	.70	1.62
8	.18	.47	.70	1.35	23	.45	.46	.70	1.61
9	.22	.47	.70	1.39	24	.41	.46	.70	1.57
10	− 0.29	− 0.47	− 0.70	− 1.46	25	− 0.36	− 0.46	− 0.70	− 1.52
11	.36	.47	.70	1.53	26	.32	.45	.70	1.47
12	.43	.47	.70	1.60	27	.29	.45	.70	1.44
13	.44	.47	.70	1.61	28	.27	.45	.70	1.42
14	.41	.47	.70	1.58	29	.25	.45	.70	1.40

TABLE X.—*Systematic Corrections, etc.*—Continued.

DIRECT OBSERVATIONS.

N. P. D.	Division Correction.	Flexure Correction.	$\Delta Z + \Delta\phi$	Total.	N. P. D.	Division Correction.	Flexure Correction.	$\Delta Z + \Delta\phi$	Total.
°	″	″	″	″	°	″	″	″	″
30	− 0.24	− 0.45	− 0.70	− 1.39	70	− 0.26	− 0.25	− 0.12	− 0.63
31	.23	.44	.70	1.37	71	.33	.24	.12	.69
32	.22	.44	.70	1.36	72	.39	.24	.12	.75
33	.22	.44	.70	1.36	73	.42	.23	.12	.77
34	.22	.44	.70	1.36	74	.44	.22	.12	.78
35	− 0.22	− 0.43	− 0.70	− 1.35	75	− 0.46	− 0.21	− 0.12	− 0.79
36	.24	.43	.70	1.37	76	.49	.21	.12	.82
37	.27	.43	.70	1.40	77	.52	.20	.12	.84
38	.28	.42	.70	1.40	78	.52	.19	.12	.83
39	.26	.42	.70	1.38	79	.50	.18	.12	.80
40	− 0.23	− 0.42	− 0.70	− 1.35	80	− 0.48	− 0.18	− 0.12	− 0.78
41	.20	.41	.70	1.31	81	.51	.17	.12	.80
42	.19	.41	.70	1.30	82	.56	.16	.12	.84
43	.17	.40	.70	1.27	83	.57	.15	.12	.84
44	.16	.40	.70	1.26	84	.56	.15	.12	.83
45	− 0.15	− 0.39	− 0.70	− 1.24	85	− 0.53	− 0.14	− 0.12	− 0.79
46	.14	.39	.70	1.23	86	.46	.13	.12	.71
47	.13	.38	.65	1.16	87	.38	.12	.12	.62
48	.12	.38	.59	1.09	88	.30	.11	.12	.53
49	.12	.38	.53	1.03	89	.29	.11	.12	.52
50	− 0.12	− 0.37	− 0.47	− 0.96	90	− 0.29	− 0.10	− 0.12	− 0.51
51	.07	.37	.41	.85	91	.27	.09	.12	.48
52	0.01	.36	.35	.72	92	.26	.08	.12	.46
53	.00	.36	.29	.65	93	.26	.07	.12	.45
54	.00	.35	.23	.58	94	.27	.07	.12	.46
55	+ 0.01	− 0.34	− 0.17	− .50	95	− 0.27	− 0.06	− 0.12	− 0.45
56	.06	.34	.12	.40	96	.23	.05	.12	.40
57	.12	.33	.12	.33	97	.19	.04	.12	.35
58	.12	.33	.12	.33	98	.18	.03	.12	.33
59	+ 0.08	.32	.12	.36	99	.22	.02	.12	.36
60	0.00	− 0.31	− 0.12	− 0.43	100	− 0.29	− 0.02	− 0.12	− 0.43
61	− 0.07	.31	.12	.50	101	.36	0.01	.12	.49
62	.13	.30	.12	.55	102	.43	.00	.12	.55
63	.15	.30	.12	.57	103	.44	+ 0.01	.12	.55
64	.12	.29	.12	.53	104	.41	.02	.12	.51
65	− 0.11	− 0.28	− 0.12	− 0.51	105	− 0.37	+ 0.02	− 0.12	− 0.47
66	.14	.28	.12	.54	106	.36	.03	.12	.45
67	.18	.27	.12	.57	107	.36	.04	.12	.44
68	.21	.26	.12	.59	108	.38	.05	.12	.45
69	.24	.26	.12	.62	109	.40	.06	.12	.46

TABLE X.—*Systematic Corrections, etc.*—Continued.

DIRECT OBSERVATIONS.

N. P. D.	Division Correction.	Flexure Correction.	$\Delta Z+\Delta\phi$	Total.
°	″	″	″	″
110	− 0.43	+ 0.07	− 0.12	− 0.48
111	.45	.07	.12	.50
112	.46	.08	.12	.50
113	.45	.09	.12	.48
114	.41	.10	.12	.43
115	− 0.36	+ 0.11	− 0.12	− 0.37
116	.32	.11	.12	.33
117	.29	.12	.12	.29
118	.27	.13	.12	.26
119	.25	.14	.12	.23
120	− 0.24	+ 0.15	− 0.12	− 0.21
121	.23	.15	.12	.20
122	.22	.16	.12	.18
123	.22	.17	.12	.17
124	.22	.18	.12	.16
125	− 0.22	+ 0.18	− 0.12	− 0.16
126	.24	.19	.12	.17
127	.27	.20	.12	.19
128	.28	.21	.12	.19
129	.26	.21	.12	.17
130	− 0.23	+ 0.22	− 0.12	− 0.13
131	.20	.23	.12	.09
132	.19	.24	.12	.07
133	.17	.24	.12	.05
134	.16	.25	.12	.03
135	− 0.15	+ 0.26	− 0.12	− .01
136	.14	.26	.12	0.00
137	.13	.27	.12	+ 0.02
138	.12	.28	.12	.04
S. P.				
325	+ 0.01	− 0.32	− 0.70	− 1.01
326	.06	.33	.70	0.97
327	.12	.33	.70	.91
328	.12	.34	.70	.92
329	.08	.34	.70	.96
330	+ 0.00	− 0.35	− 0.70	− 1.05
331	− 0.07	.35	.70	1.12
332	.13	.36	.70	1.19
333	.15	.37	.70	1.22
334	.12	.37	.70	1.19
335	− 0.11	− 0.38	− 0.70	− 1.19
336	.14	.38	.70	1.22
337	.18	.39	.70	1.27
338	.21	.39	.70	1.30
339	.24	.40	.70	1.34
340	− 0.26	− 0.40	− 0.70	− 1.36
341	.33	.41	.70	1.44
342	.39	.41	.70	1.50
343	.42	.42	.70	1.54
344	.44	.42	.70	1.56
345	− 0.46	− 0.42	− 0.70	− 1.58
346	.49	.43	.70	1.62
347	.52	.43	.70	1.65
348	.52	.43	.70	1.65
349	.50	.43	.70	1.63
350	− 0.48	− 0.44	− 0.70	− 1.62
351	.51	.44	.70	1.65
352	.56	.44	.70	1.70
353	.57	.44	.70	1.71
354	.56	.45	.70	1.71
355	− 0.53	− 0.45	− 0.70	− 1.68
356	.46	.45	.70	1.61
357	.38	.45	.70	1.53
358	.30	.46	.70	1.46
359	.29	.46	.70	1.45

TABLE X.—*Systematic Corrections, etc.*—Continued.

REFLECTION OBSERVATIONS.

N. P. D.	Division Correction.	Flexure Correction.	$\Delta Z+\Delta\phi$	Total.	N. P. D.	Division Correction.	Flexure Correction.	$\Delta Z+\Delta\phi$	Total.
°	″	″	″	″	°	″	″	″	″
0	+ 0.44	− 0.12	+ 1.20	+ 1.52	45	− 0.13	− 0.35	+ 1.20	+ 0.72
1	.37	.13	1.20	1.44	46	0.07	.35	1.20	0.78
2	.30	.13	1.20	1.37					
3	.23	.14	1.20	1.29					
4	.18	.15	1.20	1.23					
5	+ 0.18	− 0.15	+ 1.20	+ 1.23	56	+ 0.14	− 0.38	+ 0.62	+ 0.38
6	.22	.16	1.20	1.26	57	.15	.38	.62	.39
7	.27	.17	1.20	1.30	58	.16	.38	.62	.40
8	.27	.17	1.20	1.30	59	.17	.38	.62	.41
9	.26	.18	1.20	1.28	60	.19	.38	.62	.43
10	+ 0.26	− 0.18	+ 1.20	+ 1.28	61	+ 0.20	− 0.38	+ 0.62	+ 0.44
11	.27	.19	1.20	1.28	62	.22	.38	.62	.46
12	.29	.20	1.20	1.29	63	.26	.39	.62	.49
13	.29	.20	1.20	1.29	64	.28	.39	.62	.51
14	.29	.21	1.20	1.28	65	.27	.39	.62	.50
15	+ 0.36	− 0.21	+ 1.20	+ 1.35	66	+ 0.25	− 0.39	+ 0.62	+ 0.48
16	.44	.22	1.20	1.42	67	.22	.39	.62	.45
17	.52	.22	1.20	1.50	68	.22	.39	.62	.45
18	.56	.23	1.20	1.53	69	.22	.39	.62	.45
19	.57	.24	1.20	1.53	70	.22	.39	.62	.45
20	+ 0.57	− 0.24	+ 1.20	+ 1.53	71	+ 0.23	− 0.39	+ 0.62	+ 0.46
21	.52	.25	1.20	1.47	72	.24	.39	.62	.47
22	.48	.25	1.20	1.43	73	.25	.39	.62	.48
23	.49	.26	1.20	1.43	74	.27	.39	.62	.50
24	.52	.26	1.20	1.46	75	.28	.39	.62	.51
25	+ 0.53	− 0.27	+ 1.20	+ 1.46	76	+ 0.31	− 0.39	+ 0.62	+ 0.54
26	.50	.27	1.20	1.43	77	.35	.39	.62	.58
27	.46	.28	1.20	1.38	78	.40	.39	.62	.63
28	.44	.28	1.20	1.36	79	.45	.39	.62	.68
29	.42	.29	1.20	1.33	80	.46	.39	.62	.69
30	+ 0.40	− 0.29	+ 1.20	+ 1.31	81	+ 0.45	− 0.38	+ 0.62	+ 0.69
31	.34	.29	1.20	1.25	82	.44	.38	.62	.68
32	.27	.30	1.20	1.17	83	.41	.38	.62	.65
33	.24	.30	1.20	1.14	84	.38	.38	.62	.62
34	.22	.31	1.20	1.11	85	.36	.38	.62	.60
35	+ 0.19	− 0.31	+ 1.20	+ 1.08	86	+ 0.36	− 0.38	+ 0.62	+ 0.60
36	.15	.32	1.20	1.03	87	.36	.38	.62	.60
37	.11	.32	1.20	0.99	88	.40	.37	.62	.65
38	.12	.32	1.20	1.00	89	.44	.37	.62	.69
39	.15	.33	1.20	1.02	90	.44	.37	.62	.69
40	+ 0.14	− 0.33	+ 1.20	+ 1.01	91	+ 0.37	− 0.37	+ 0.62	+ 0.62
41	.08	.34	1.20	0.94	92	.30	.37	.62	.55
42	+ .02	.34	1.20	0.88	93	.23	.36	.62	.49
43	− 0.07	.34	1.20	0.79	94	.18	.36	.62	.44
44	.12	.35	1.20	0.73	95	.18	.36	.62	.44
					96	+ 0.22	− 0.36	+ 0.62	+ 0.48
					97	.27	.35	.62	.54
					98	.27	.35	.62	.54
					99	.26	.35	.62	.53
					100	.26	.34	.62	.54
					101	+ 0.27	− 0.34	+ 0.62	+ 0.55

Since the assumed value of the latitude is $+38° 53' 38''.80$, the value given by each year's observations will be $+38° 53' 38''.80+\Delta\varphi$.

The observed north polar distances used in computing $\Delta\varphi$ had been corrected for constant error in the zenith point, and, in order to separate the values of the latitude obtained from direct and reflection observations, those corrections should be removed; hence—

Latitude from direct observations.... $=+38° 53' 38''.80+\Delta\varphi+\Delta Z$
Latitude from reflection observations. $=+38° 53' 38''.80+\Delta\varphi-\Delta Z$

The following table exhibits the results obtained from 1866 to 1881:

TABLE XI.

Year.	Latitude from Direct Observations.	Latitude from Reflection Observations.	Mean.
	° ′ ″	° ′ ″	″
1866	+ 38 53 38.73	+ 38 53 37.67	38.20
1867	39.16	37.48	38.32
1868	38.69	37.73	38.21
1869	38.62	38.90	38.76
1870	38.71	39.57	39.14
1871 } 1872 }	39.11	36.49	37.80
1873	38.91	37.89	38.40
1874	38.31	38.27	38.29
1875	39.22	37.32	38.27
1876	38.64	37.50	38.07
1877	39.14	37.58	38.36
1878	38.07	38.29	38.18
1879	40.41	37.23	38.82
1880	36.36	38.12	37.24
1881	+ 38 53 39.50	+ 38 53 37.60	38.55

POSITIONS AND SEMI-DIAMETERS OF THE SUN, MOON, AND PLANETS, DEDUCED FROM OBSERVATIONS WITH THE TRANSIT CIRCLE IN 1881 AND COMPARED WITH THE TABLES.

The results of the observations are given on pages 191 to 204, and require very little explanation.

When both limbs of an object presenting a fully illuminated disk have been observed, the adopted position of the center is the mean of that of the two limbs given in the twelfth and fourteenth columns of the observations. When only one full limb has been observed, the right ascension of the center is derived from the observed place of the limb by applying the "Time of the semi-diameter passing the meridian," taken from the Ephemeris. The declination of the center is obtained by applying the semi-diameter of the Ephemeris.

If one of the limbs observed was defective, the observed difference of right ascension or declination of limbs is multiplied by the ratio of half this difference to the true

semi-diameter, and the observed semi-diameter thus deduced is applied to the observed position of the full limb to obtain that of the center. The factors are determined as follows:

Let

i = the elongation of Earth and Sun as seen from the Planet;

$b = \cos i$;

$\delta\ \delta'$ = declinations of Planet and Sun;

A = difference of right ascensions of Planet and Sun;

θ = the angle which the line of cusps makes with the meridian;

f, f' = factors by which the measured diameters in right ascension and declination must be multiplied to obtain true semi-diameters.

To find f, we have

$$\tan\theta = \frac{\cos\delta\tan\delta'}{\text{Sin A}} - \frac{\sin\delta}{\tan \text{A}}$$

When the planet is gibbous;

$$g = \cos\theta\sqrt{b^2 + \tan^2\theta} = \cos\theta'' \quad , \quad \text{when } \sin\theta'' = \cos\theta\sin i$$
$$g' = \sin\theta\sqrt{b^2 + \cot^2\theta} = \cos\theta' \quad , \quad \text{when } \sin\theta' = \sin\theta\sin i$$

$$f = \frac{1}{1+g} \text{ and } f' = \frac{1}{1+g'}$$

When the illuminated disk is a crescent,

$$g = \sin\theta \qquad f = \frac{1}{1+g}$$

$$g' = \cos\theta \qquad f' = \frac{1}{1+g'}$$

For the Moon the correction for defective illumination in N. P. D. is obtained with more facility from the following formulæ, where the quantities have the same signification as above, E being an auxiliary angle:

$$\tan \text{E} = \tan\delta\cos \text{A}$$
$$\sin\theta' = \sin(\delta' - \text{E})\cos\delta\sec \text{E}$$
$$\cos\theta' = g'$$

When the center of light of Mercury has been observed, its reduction to the center of the planet is denoted by ε, and its value is obtained from the empirical formulæ

$$n = \frac{(1-b)(5+b)}{12}$$

In right ascension - - - - ε = semi-diameter $\times\, n\cos\theta$

In north polar distance - - - ε = semi-diameter $\times\, n\sin\theta$

The north polar distances are also corrected for parallax in altitude, found at the foot of the pages of observations, and for errors of division, flexure, etc., taken from Table X.

A discussion of all the observations of the Sun made in 1881 gives the following results:

TABLE XII.—*Corrections to the Semi-diameters of the Sun, given in the American Ephemeris, obtained from the mean of all the measures made by each Observer in* 1881.

Observer.	Sidereal Time of Semi-diameter passing the Meridian.	Vertical Semi-diameter.
	s.	″
EASTMAN . . .	— 0.01_{15}	— 1.0_{16}
SKINNER . . .	— 0.06_{12}	— 0.9_{12}
ROCK	— 0.09_{29}	— 0.8_{32}
WINLOCK . . .	— 0.10_{22}	— 1.1_{23}

The subscript figures indicate the number of observations on which each value depends.

When only one limb of the Sun was observed, the quantity in the last column of the observations is the semi-diameter of the Ephemeris corrected by means of the above table.

The places of the Moon at the time of transit at Washington are not given either in the American Ephemeris or the English Nautical Almanac, but are computed in the following manner: The observed right ascension of the center is reduced to Washington mean time, or, if only the north polar distance is observed, the mean time of transit of the center is taken directly from the American Ephemeris. Increasing this quantity by $5^h\ 8^m\ 12^s$ gives Greenwich mean time, with which, as an argument, the tabular place is interpolated from the hourly Ephemeris for Greenwich.

The places in the American Ephemeris and in the English Nautical Almanac are respectively those of PEIRCE'S and HANSEN'S tables.

The observations of the major planets are compared with the data given in the American Ephemeris for the instant of transit at Washington. The places of Venus, according to LE VERRIER'S tables, are obtained by applying to the positions given in the American Ephemeris for the transit at Washington the differences between the positions for Greenwich noon, given respectively in that Ephemeris and in the English Nautical Almanac

The observations of the minor planets Ceres, Pallas, Juno, Vesta, and Astræa are compared with the ephemerides in the Appendix to the English Nautical Almanac, from which the position is interpolated for the difference in longitude. The other minor planets are compared with the ephemerides in the Berliner Jahrbuch.

The observed time of transit converted into Washington mean time and increased by $6^h\ 1^m.8$ gives the Berlin mean time of transit. Subtracting the "aberration time" of the Ephemeris leaves the Berlin mean time at which the light left the planet, and for this instant the position of the planet is interpolated from the Ephemeris in the Jahrbuch and compared with the observed place.

TABLE A.—*Adopted Values of the Collimation, Level, and Azimuth Constants employed in the reduction of the Observations with the Transit Circle in* 1881.

Adopted values of C_0.
From January 17 to May 12, $C_0 = -0^s.068$.
From May 16 to December 31, $C_0 = -0^s.137$.

Month and Day.		Sidereal Hour.	c	b	a	Month and Day.		Sidereal Hour.	c	b	a
1881.	d.	h.	s.	s.	s.	1881.	d.	h.	s.	s.	s.
January	17.3	2.1	+ 0.068	+ 0.142	+ 0.423	February	5.4	6.0	+ 0.014	+ 0.206	+ 0.658
		6.9	.050	. .	.423			8.7	− 0.016	. .	.658
	17.9	19.2	.044	.196	.600		6.1	0.3	+ 0.074	.142	.611
	18.0	20.1	.058	. .	.600			4.2	.050	. .	.611
	18.1	20.6	.063	. .	.600		11.9	20.3	.173	.036	1.664
		23.0	+ 0.059	. .	+ 0.600		12.0	21.8	+ 0.173	. .	+ 1.664
	22.3	3.1	.069	+ 0.064	. . .			2.0	.162	. . .	1.664
		7.6	.062	. .	. . .		13.9	19.0	.049	+ 0.036	2.084
	23.7	13.9	.028	.082	.481		14.0	21.9	.066	. .	2.084
		16.0	.026	. .	.481			1.3	.072	. .	2.084
	23.9	17.9	+ 0.046	+ 0.177	+ 0.673		15.9	19.0	+ 0.078	+ 0.231	+ 2.071
	24.0	20.5	.066	. .	.673		16.0	22.1	.131	. .	2.071
	24.4	6.2	.046	.152	.673			2.0	.127	. .	2.071
		7.5	.046	. .	.673		16.4	6.0	.075	.196	2.071
	25.9	18.6	.037	.057	.523			8.9	.059	. .	2.071
	26.0	21.6	+ 0.074	. .	+ 0.523			11.7	+ 0.047	. .	+ 2.071
		23.5	.084	. .	.523		16.7	13.3	.042	. .	2.071
	26.9	19.2	.029	+ 0.188	.636		16.9	19.4	.054	+ 0.210	2.121
		20.3	.040	. .	.636		17.0	22.1	.084	. .	2.121
	27.0	0.0	.033	. .	.636			1.3	.095	. .	2.121
	27.3	4.2	+ 0.033	+ 0.237	+ 0.636			6.2	+ 0.068	. .	+ 2.121
		8.1	.020	. .	.636		17.4	9.8	.064	+ 0.202	2.121
		10.4	.010	. .	.636		19.3	4.9	.095	.139	1.982
	27.9	19.0	.023	.255	.483			9.0	.074	. .	1.982
	28.0	20.8	.036	. .	.483		21.3	6.4	0.082	. .	1.982
		0.2	+ 0.058	. .	+ 0.483		21.5	11.5	+ 0.066	+ 0.154	+ 2.001
	28.3	3.9	.036	+ 0.240	.483		23.9	19.7	.009	.034	1.766
		9.4	.019	. .	.483		24.0	22.6	.038	. .	1.766
February	3.9	18.8	.001	.313	.732			1.6	.055	. .	1.766
	4.0	21.3	.032	. .	.732		24.9	22.3	.104	.198	1.764
		0.1	+ 0.046	. .	+ 0.732		25.0	22.6	+ 0.106	. .	+ 1.764
		2.0	.034	. .	.732		25.9	20.3	.068	+ 0.204	1.746
	4.9	18.6	.002	+ 0.326	.658		26.0	22.7	.100	. .	1.746
	5.0	20.3	.036	. .	.658	March	1.3	6.0	.054	.133	2.264
		3.1	.032	. .	.658			9.0	.045	. .	2.264

TABLE A.—*Adopted Values of the Collimation, Level, and Azimuth Constants*—Continued.

Month and Day.		Sidereal Hour.	*c*	*b*	*a*	Month and Day.		Sidereal Hour.	*c*	*b*	*a*
1881.	d.	h.	s.	s.	s.	1881.	d.	h.	s.	s.	s.
March	2.3	5.5	+ 0.086	+ 0.016	+ 1.958	March	25.3	8.4	+ 0.130	— 0.146	— 0.598
		10.1	.060	. .	1.958			9.3	.120	. .	.598
	5.3	6.7	.047	.009	1.843		27.9	21.6	.112	.030	.493
		8.4	.050	. .	1.843		28.0	0.5	.145	. .	.493
	6.2	3.7	.104	.030	1.700			3.3	.161	. .	.493
		4.1	+ 0.100	. .	+ 1.700		28.3	6.5	+ 0.154	— 0.086	— 0.493
	6.9	21.4	.101	+ 0.119	1.772			8.5	.140	. .	.493
	7.0	23.3	.112	. .	1.772		29.4	8.2	.120	.132	.355
		2.0	.121	. .	1.772			10.0	.104	. .	.355
	7.2	5.2	.108	. .	1.772		29.6	13.3	.093	. .	.355
	7.4	9.7	+ 0.076	+ 0.004	+ 1.772	April	2.1	3.6	+ 0.100	— 0.214	— 0.056
	7.9	20.6	.087	— 0.134	1.800			4.4	.104	. .	.056
	8.0	23.3	.134	. .	1.800			8.1	.072	. .	.056
	10.3	5.8	.131	.072	1.888			9.7	.066	. .	— .056
		10.4	.110	. .	1.888		4.4	9.3	.063	.050	+ 0.019
	10.9	21.6	+ 0.111	— 0.046	+ 1.732			11.5	+ 0.054	. .	+ 0.019
	11.0	23.5	.120	. .	1.732			13.3	.048	. .	.019
		1.3	.128	. .	1.732		5.2	6.3	.078	— 0.042	.175
		2.2	.128	. .	1.732			9.2	.062	. .	.175
	11.3	6.1	.105	.059	1.732			12.1	.053	. .	.175
		9.7	+ 0.093	. .	+ 1.732		10.4	10.2	+ 0.136	— 0.116	+ 0.056
	13.4	9.7	.110	— 0.013	1.686			13.3	.117	. .	.056
		12.0	.107	. .	1.686		10.9	22.6	.147	.197	.167
	14.3	6.5	.101	.095	1.667		11.0	1.4	.178	. .	.167
		8.4	.100	. .	1.667		11.3	8.7	.164	.186	.167
	14.9	21.6	+ 0.096	— 0.063	+ 1.475			11.2	+ 0.148	. .	+ 0.167
	15.0	23.8	.132	. .	1.475		14.9	1.3	.150	— 0.201	.125
		2.4	.145	. .	1.475		15.0	1.6	.149	. .	.125
	15.3	6.5	.120	.052	1.475			4.5	.164	. .	.125
		7.2	.120	. .	1.475		15.3	8.8	.148	. .	.125
	21.4	11.4	+ 0.096	— 0.091			16.3	9.0	+ 0.144	— 0.230	— 0.076
	23.8	19.0	.068	.025	— 0.457			13.3	.125	. .	.076
	24.0	0.2	.136	(.080)	.463		22.3	9.4	.164	.183	.064
		1.2	.145	. .	.463			13.3	.144	. .	.064
		2.9	.147	. .	.463			14.7	.144	. .	.064
	24.3	6.5	+ 0.129	— 0.080	— 0.463		22.8	22.0	+ 0.160	— 0.118	+ 0.156
		10.2	.114	. .	.463		22.9	0.0	.192	.155	.000
	24.3	12.5	.103	. .	.463			1.3	.202	. .	.000
	25.0	0.3	.160	.093	.598		23.0	2.1	.205	. .	.000
		1.3	.166	. .	.598			4.5	.224	. .	.000

TABLE A.—*Adopted Values of the Collimation, Level, and Azimuth Constants*—Continued.

Month and day.		Sidereal Hour.	c	b	a	Month and Day.		Sidereal Hour.	c	b	a
1881.	d.	h.	s.	s.	s.	1881.	d.	h.	s.	s.	s.
April	23.3	9.7	+ 0.190	— 0.196	.000	May	16.3	10.7	+ 0.123	— 0.017	+ 0.611
		13.5	.158	. .	.000			13.6	.104	. .	.611
	25.9	1.3	.248	.235	+ 0.802		20.3	11.7	.111	.135	.095
	26.0	2.3	.256	. .	.802			16.9	.089	. .	.095
	27.9	0.8	.224	.151	.834		20.9	1.3	.117	.153	.177
	28.0	2.4	+ 0.235	. .	+ 0.834		21.3	12.0	+ 0.143	— 0.153	+ 0.177
		5.1	.245	. .	.834			13.8	.132	. .	.177
	28.3	9.4	.230	— 0.213	.834		24.4	13.3	.120	.186	.197
		14.2	.196	. .	.834			18.3	.103	. .	.197
	29.4	11.2	.181	.152	.800		24.9	1.3	.152	.085	.362
		13.3	+ 0.174	. .	+ 0.800		25.0	4.2	+ 0.193	. .	+ 0.362
		14.8	.155	. .	.800			6.5	.192	. .	.362
	29.9	0.1	.176	— 0.061	.846		25.3	12.6	.157	— 0.190	.362
		1.3	.200	. .	.846			14.8	.137	. .	.362
	30.0	2.6	.196	. .	.846			15.9	.125	. .	.362
		5.3	+ 0.210	. .	+ 0.846		26.9	2.2	+ 0.154	— 0.135	+ 0.273
	30.4	11.5	.177	— 0.109	.569		27.0	4.4	.177	. .	.273
		14.8	.155	. .	.569			8.0	.199	. .	.273
May	1.1	5.1	.200	.069	.280		27.4	13.3	.149	.187	.273
		6.5	.204	. .	.280			17.5	.129	. .	.273
	7.3	8.3	+ 0.197	— 0.189	+ 0.285		27.9	2.0	+ 0.163	— 0.097	+ 0.333
		11.8	.188	. .	.285		28.0	4.4	.199	. .	.333
		13.4	.176	. .	.285			7.6	.211	. .	.333
	8.3	10.7	.208	.204	.197		28.3	12.0	.171	.178	.333
		14.0	.185	. .	.197			16.0	.147	. .	.333
	8.9	0.0	+ 0.200	— 0.129	+ 0.423		30.9	2.3	+ 0.184	— 0.098	+ 0.600
	9.0	3.1	.237	. .	.423		31.0	4.6	.214	. .	.600
		5.3	.250	. .	.423			7.6	.223	. .	.600
	9.3	10.8	.227	.221	.423						
		13.5	.213	. .	.423	June	8.3	13.3	+ 0.157	— 0.181	+ 0.351
	9.9	0.7	+ 0.228	— 0.214	+ 0.457			15.1	.152	. .	.351
	10.0	3.2	.260	. .	.457		10.9	3.3	.143	.179	.000
		5.3	.271	. .	.457		11.0	5.4	.160	. .	.000
	10.3	10.7	.241	.204	.646			7.6	.175	. .	.000
		14.5	.219	. .	.646		11.5	17.2	+ 0.132	— 0.185	+ 0.058
	11.9	1.3	+ 0.274	— 0.121	+ 1.113			19.0	.119	. .	.058
	12.0	3.3	.291	. .	.113		12.5	16.5	.140	.230	.222
	*12.3	11.2	.252	.163	.113			19.5	.127	. .	.222
		13.3	.240	. .	.113		13.3	13.3	.145	.174	.291
		15.5	.237	. .	.113			15.2	.141	. .	.291

*Eye-end of telescope removed May 13.

TABLE A.—*Adopted Values of the Collimation, Level, and Azimuth Constants*—Continued.

Month and Day.		Sidereal Hour.	c	b	a	Month and Day.		Sidereal Hour.	c	b	a
1881.	d.	h.	s.	s.	s.	1881.	d.	h.	s.	s.	s.
June	15.9	3.0	+ 0.155	— 0.085	+ 0.541	July	3.2	12.2	+ 0.210	— 0.222	+ 0.342
	16.0	5.7	.176	. .	.541			13.3	.206	. .	.342
	17.9	3.0	.172	.127	.585			16.6	.168	. .	.342
	18.0	5.8	.195	. .	.585			18.7	.152	. .	.342
		7.7	.205	. .	.585		4.9	5.1	.205	.174	.418
	18.4	15.0	+ 0.159	— 0.150	+ 0.585		5.0	7.0	+ 0.213	. .	+ 0.418
		18.7	.145	. .	.585			13.5	.227	— 0.230	.418
	19.7	23.4	.143	.178	.625			15.5	.199	. .	.418
		0.6	.157	. .	.625			19.1	.173	. .	.418
	19.9	3.0	.181	.110	.600		5.9	3.9	.208	.177	.709
	20.0	6.0	+ 0.213	. .	+ 0.600		6.1	5.8	+ 0.227	. .	+ 0.709
		7.7	.217	. .	.600		6.5	18.7	.180	— 0.224	.709
	20.9	3.6	.163	— 0.144	.565			20.8	.176	. .	.709
	21.0	6.0	.178	. .	.565		6.9	5.1	.201	.141	.700
		7.8	.175	. .	.565		7.0	7.1	.218	. .	.700
	21.3	13.5	+ 0.153	— 0.146	+ 0.565		7.9	4.0	+ 0.180	— 0.124	+ 0.653
		15.8	.142	. .	.565		8.0	7.2	.207	. .	.653
	22.3	14.2	.141	.125	.278			10.2	.215	. .	.653
		16.5	.117	. .	.278		8.4	16.6	.175	.197	.653
		18.6	.105	. .	.278			19.3	.162	. .	.653
	23.9	3.1	+ 0.125	— 0.091	+ 0.150		9.3	15.1	+ 0.177	— 0.159	+ 0.566
	24.0	6.3	.153	. .	.150			19.0	.167	. .	.566
	24.4	16.5	.128	.140	.150		10.3	15.8	.196	.194	.580
		18.5	.124	. .	.150			18.0	.176	. .	.580
		20.8	.106	. .	.150			21.3	.164	. .	.580
	26.4	16.7	+ 0.157	— 0.179	+ 0.212		10.9	5.1	+ 0.199	— 0.122	+ 0.720
		18.7	.151	. .	.212		11.0	7.4	.229	. .	.720
	28.4	16.4	.185	.286	.574		11.5	20.8	.175	.166	.720
		19.2	.170	. .	.574			22.1	.170	. .	.720
	29.4	17.1	.169	.226	.628		13.9	4.4	.193	.122	.810
		20.3	+ 0.164	. .	+ 0.628		14.0	7.6	+ 0.216	. .	+ 0.810
	29.9	4.2	.177	— 0.191	.767			10.2	.227	. .	.810
	30.0	6.6	.197	. .	.767		14.3	15.2	.200	— 0.141	.810
July	1.3	14.8	.156	.202	.498			17.0	.172	. .	.810
		18.8	.129	. .	.498			19.8	.165	. .	.810
	1.9	4.2	+ 0.164	— 0.161	+ 0.364			21.1	+ 0.165	. .	+ 0.810
	2.0	6.8	.185	. .	.364		15.5	19.5	.158	— 0.101	.685
		11.3	.194	. .	.364			22.8	.153	. .	.685
	2.4	17.1	.149	.196	.364		15.9	4.5	.179	.086	.630
		20.7	.132	. .	.364		16.0	7.8	.211	. .	.630

TABLE A.—*Adopted Values of the Collimation, Level, and Azimuth Constants*—Continued.

Month and Day.		Sidereal Hour.	c	b	a	Month and Day.		Sidereal Hour.	c	b	a
1881.	d.	h.	s.	s.	s.	1881.	d.	h.	s.	s.	s.
July	16.5	19.8	+ 0.175	− 0.117	+ 0.630	August	3.0	8.9	+ 0.221	. .	+ 0.081
		21.0	.169	. .	.630			11.7	.232	. .	.081
		22.6	.170	. .	.630		3.3	15.2	.208	− 0.185	.081
	17.9	4.6	.149	.096	.448			18.1	.166	. .	.081
	18.0	7.9	.179	. .	.448			21.0	.148	. .	.081
		10.0	+ 0.191	. .	+ 0.448		4.3	16.2	+ 0.206	− 0.183	+ 0.102
	18.4	17.5	.150	− 0.106	.275			17.5	.192	. .	.102
	18.5	19.2	.141	. .	.275		5.3	16.5	.219	.157	.208
		22.9	.130	. .	.275			17.4	.213	. .	.208
		0.8	.123	. .	.275			18.8	.199	. .	+ 0.208
		2.9	+ 0.135	. .	+ 0.275		7.9	6.7	+ 0.155	− 0.152	− 0.032
	18.9	5.3	.167	− 0.113	.262		8.0	9.3	.175	. .	.032
	19.0	8.0	.200	. .	.262			11.8	.178	. .	.032
		11.1	.218	. .	.262		8.3	17.1	.162	.172	.032
	19.5	19.5	.151	.132	.262			19.4	.144	. .	.032
		21.4	+ 0.141	. .	+ 0.262			21.7	+ 0.138	. .	− 0.032
		21.8	.140	. .	.262		10.9	6.4	.157	− 0.154	+ 0.032
	22.6	23.8	.122	− 0.167	.068		11.0	9.5	.181	. .	.032
		1.3	.118	. .	.068		11.4	19.2	.153	.154	.032
		1.9	.121	. .	.068			21.3	.145	. .	.032
	22.9	5.8	+ 0.160	0.145	. .			23.5	+ 0.143	. .	+ 0.032
	23.0	8.2	.180	. .	+ 0.093		12.3	17.0	.204	− 0.136	.081
	23.3	21.3	.141	.089	.093			20.4	.179	. .	+ 0.081
		0.9	.134	. .	.093		14.9	6.7	.153	.145	− 0.091
	23.5	2.3	.133	. .	.093		15.0	9.7	.176	. .	.091
	24.6	23.1	+ 0.145	− 0.137	. .			10.9	+ 0.184	. .	− 0.091
	25.9	5.8	.185	.097	+ 0.050		15.3	17.5	.153	− 0.167	.091
	26.0	8.4	.212	. .	.050			18.7	.142	. .	.091
		10.1	.222	. .	.050			21.0	.129	. .	.091
	27.7	0.2	.131	.108	.052			22.1	.129	. .	.091
		3.0	+ 0.134	. .	+ 0.052		16.3	18.0	+ 0.148	− 0.120	− 0.061
	27.9	5.4	.161	− 0.095	− 0.041			20.5	.131	. .	.061
	28.0	8.6	.189	. .	.041		19.7	3.9	.128	.080	.182
	28.6	22.8	.128	.154	.041		19.9	7.1	.173	.109	.182
		1.4	.121	. .	.041		20.0	10.0	.201	. .	.182
	31.2	12.8	+ 0.194	− 0.160	. .		20.3	17.4	+ 0.180	− 0.162	− 0.182
		14.2	.196	. .	. .			19.0	.165	. .	.182
August	2.3	16.4	.183	.197	+ 0.053			22.3	.156	. .	.182
		19.0	.163	. .	.053		22.3	18.0	.179	.166	.064
	2.9	5.8	.183	.134	.081			19.0	.165	. .	.064

TABLE A.—*Adopted Values of the Collimation, Level, and Azimuth Constants*—Continued.

Month and Day.		Sidereal Hour.	*c*	*b*	*a*	Month and Day.		Sidereal Hour.	*c*	*b*	*a*
1881.	d.	h.	s.	s.	s.	1881.	d.	h.	s.	s.	s.
August	22.3	21.4	+ 0.155	. .	− 0.064	September	24.3	19.4	+ 0.192	− 0.151*	− 0.162
	22.9	7.4	.169	− 0.108	.021			21.9	.173	. .	.162
	23.0	10.2	.201	. .	.021			0.6	.165	. .	.162
		13.1	.210	. .	.021		29.4	19.5	.195	.174	.092
	23.3	17.2	.182	.159	.021			22.3	.179	. .	.092
		19.1	+ 0.159	. .	− 0.021		30.4	20.6	+ 0.180	− 0.147	− 0.070
		22.3	.131	. .	.021			21.5	.173	. .	.070
		0.2	.125	. .	.021			0.7	.167	. .	.070
	24.4	18.7	.175	− 0.120	.130	October	1.3	19.8	.187	.179	.068
		20.3	.171	. .	.130			0.1	.167	. .	.068
		21.8	+ 0.155	. .	− 0.130		5.3	20.0	+ 0.065	− 0.056	− 0.500
	25.3	17.7	.173	− 0.143	.204			21.9	.051	. .	.500
		20.5	.158	. .	.204		6.3	19.6	.098	.038	.556
	26.3	17.3	.175	.152	.222			21.4	.088	. .	.556
		20.9	.147	. .	.222			0.4	.085	. .	.556
		22.6	+ 0.147	. .	− 0.222		7.3	21.1	+ 0.124	− 0.053	− 0.540
	26.9	7.6	.159	− 0.086	.027			22.9	.118	. .	.540
	27.0	10.5	.201	. .	.027		8.3	19.7	.155	.082	.510
		13.3	.207	. .	.027			23.0	.139	. .	.510
	27.3	17.6	.178	.105	.027		9.9	10.4	.112	.060	.490
		19.0	+ 0.157	. .	− 0.027		10.0	13.1	+ 0.141	. .	− 0.490
		22.0	.132	. .	.027			15.0	.136	. .	.490
		0.0	.130	. .	.027		10.3	19.0	.112	− 0.076	.490
	29.3	18.2	.195	− 0.182	.116			21.8	.095	. .	.490
		19.6	.179	. .	.116			0.6	.066	. .	.490
		20.9	+ 0.172	. .	− 0.116			2.5	+ 0.063	. .	− 0.490
	30.3	18.3	.193	− 0.128	.046		10.9	10.9	.064	− 0.068	.687
		21.4	.171	. .	.046		11.0	13.2	.086	. .	.687
	30.9	7.6	.178	.059	.000			16.0	.093	. .	.687
	31.0	10.7	.217	. .	.000		11.3	20.2	.076	.002	.687
	31.3	18.2	+ 0.183	. .	0.000			21.0	+ 0.076	. .	− 0.687
September	5.4	19.9	.201	− 0.136	+ 0.018			23.4	.057	. .	.687
		21.5	.189	. .	+ 0.018			0.7	.050	. .	.687
	19.3	19.0	.174	.121	− 0.262			2.0	.055	. .	.687
		23.4	.145	. .	.262		13.3	19.7	.163	− 0.097	.652
	20.3	20.0	+ 0.158	− 0.143	− 0.230			21.8	+ 0.151	. .	− 0.652
		23.6	.133	. .	.230			23.2	.151	. .	.652
	23.9	9.4	.168	.132	.162		15.1	15.4	.174	− 0.024	.491
	24.0	12.1	.196	. .	.162			17.1	.176	. .	.491
		15.0	.220	. .	.162		15.5	0.7	.138	.075	.491

TABLE A.—*Adopted Values of the Collimation, Level, and Azimuth Constants*—Continued.

Month and Day.		Sidereal Hour.	c	b	a	Month and Day.		Sidereal Hour.	c	b	a
1880.	d.	h.	s.	s.	s.	1880.	d.	h.	s.	s.	s.
October	15.5	4.2	+ 0.132	. .	− 0.491	October	27.0	18.6	+ 0.121	. .	− 0.564
		9.0	.124	. .	.491		27.5	2.0	.068	− 0.042	.564
	16.9	11.1	.155	− 0.109	.356			5.9	.066	. .	.564
	17.0	13.5	.182	. .	.356	November	3.9	12.8	.048	.113	.690
		15.6	.200	. .	.356		4.0	14.7	.051	. .	.690
	17.3	20.0	+ 0.170	− 0.139	− 0.356			18.6	+ 0.056	. .	− 0.690
		23.0	.156	. .	.356		4.4	23.9	.031	− 0.073	.690
	17.8	8.4	.137	.147	.356			1.2	.026	. .	.690
		10.4	.157	. .	.356		5.4	23.6	.075	.016	.713
	17.9	11.1	.171	− 0.070	.262			2.8	.063	. .	.713
	18.0	13.6	+ 0.196	. .	− 0.262		8.4	23.4	+ 0.122	− 0.187	. .
		14.4	.204	. .	.262			0.1	.127	. .	. .
	18.9	11.4	.079	+ 0.008	.443		13.7	9.0	.035	.081	− 0.659
	19.0	13.6	.096	. .	.443			10.4	.017	. .	.559
	19.9	10.9	.087	+ 0.065	.566		13.9	13.3	.063	.090	.545
	20.0	13.7	+ 0.110	. .	− 0.566		14.0	15.4	+ 0.089	. .	− 0.545
		16.6	.121	. .	.566			16.6	.096	. .	.545
	20.3	20.5	.097	+ 0.007	.566		14.2	21.3	.073	− 0.115	.545
		1.3	.067	. .	.566			1.3	.044	. .	.545
	20.9	11.7	.095	− 0.007	.750		14.7	9.4	.039	.103	.545
	21.0	13.8	+ 0.122	. .	− 0.750			11.1	+ 0.034	. .	− 0.545
		15.6	.129	. .	.750		14.9	13.0	.029	− 0.029	.593
	21.3	19.8	.105	− 0.029	.750		15.0	15.4	.047	. .	.593
		1.3	.067	. .	.750			18.1	.051	. .	.593
	21.9	11.8	.105	.000	.672		15.2	21.4	.034	− 0.002	.593
	22.0	13.8	+ 0.133	. .	− 0.672			1.3	+ 0.020	. .	− 0.593
		16.4	.142	. .	.672			3.7	.009	. .	.593
	22.2	19.9	.119	− 0.034	.672		15.8	10.4	.004	+ 0.021	.593
		1.0	.086	. .	.672			12.1	.000	. .	.593
		3.5	.076	. .	.672		15.9	13.0	.016	+ 0.053	.655
	24.9	13.3	+ 0.115	− 0.067	− 0.637		16.0	16.0	+ 0.052	. .	− 0.655
	25.0	14.0	.122	. .	.637			17.7	.067	. .	.655
		16.2	.128	. .	.637		16.3	23.4	.038	− 0.026	.655
	25.2	20.2	.109	.110	.637			3.1	.029	. .	.655
		1.8	.090	. .	.637		16.9	13.3	.035	.007	.632
	26.2	19.8	+ 0.108	− 0.088	− 0.600		17.0	15.6	+ 0.078	. .	− 0.632
		22.9	.084	. .	.600			18.5	.095	. .	.632
		1.4	.069	. .	.600		18.5	3.4	.111	− 0.159	
		3.9	.056	. .	.600		22.3	0.0	.032	.060	.775
	27.0	14.9	.115	.068	.564			2.0	+ 0.026	. .	.775

TABLE A.—*Adopted Values of the Collimation, Level, and Azimuth Constants*—Continued.

Month and Day.		Sidereal Hour.	*c*	*b*	*a*
1881.	d.	h.	s.	s.	s.
November	24.4	1.8	− 0.026	+ 0.006	− 0.575
		4.7	.032	. .	.575
	24.9	13.4	.025	− 0.030	.653
	25.0	16.1	− 0.002	. .	.653
		20.0	+ 0.002	. .	.653
	25.3	0.6	− 0.017	+ 0.063	− 0.653
		4.6	− 0.016	. .	.653
	27.2	21.8	+ 0.063	− 0.066	.650
		23.2	.051	. .	.650
		4.6	.044	. .	.650
	27.9	13.7	+ 0.034	− 0.055	− 0.702
	28.0	16.3	.050	. .	.702
		19.0	.052	. .	.702
	28.3	23.2	.033	.079	.702
		1.3	.025	. .	.702
	29.3	23.4	+ 0.044	− 0.026	− 0.518
		0.4	.043	. .	.518
December	1.3	23.6	.072	.158	.552
		3.1	.060	. .	.552
		5.9	.048	. .	.552
	1.9	14.0	+ 0.034	− 0.115	− 0.600
	2.0	16.6	.061	. .	.600
		2.8	.020	− 0.159	.600
		3.8	.009	. .	.600
	5.3	23.9	.027	+ 0.008	.535
		2.3	+ 0.013	. .	− 0.535
		4.4	+ 0.003	. .	.535
		7.0	− 0.001	. .	.535
	7.3	1.4	+ 0.025	− 0.003	.508
		3.9	.016	. .	.508
	8.9	14.7	+ 0.013	+ 0.062	− 0.462
	9.0	17.1	.046	. .	.462
		19.2	.064	. .	.462
	9.4	1.9	.025	+ 0.025	.462
		3.0	+ 0.029	. .	.462
	10.3	1.3	− 0.007	− 0.016	− 0.556
		4.5	.010	. .	.556
		5.7	− 0.017	. .	− 0.556
	15.3	1.3	+ 0.007	− 0.005	+ 0.690
		3.9	− 0.001	. .	.690

Month and Day.		Sidereal Hour.	*c*	*b*	*a*
1881.	d.	h.	s.	s.	s.
December	15.8	13.3	− 0.024	+ 0.060	+ 0.690
		13.8	.022	. .	.690
	15.9	14.9	− 0.016	.125	.810
	16.0	17.6	+ 0.006	. .	.810
		19.0	+ 0.015	. .	.810
	16.7	11.2	− 0.029	+ 0.101	+ 0.810
		14.4	.020	. .	.810
	16.9	15.2	− 0.004	+ 0.162	.704
	17.0	17.7	+ 0.036	. .	.704
		20.3	.048	. .	.704
	17.3	0.5	+ 0.023	− 0.015	+ 0.704
		2.3	+ 0.006	. .	.704
		5.2	− 0.001	. .	.704
		7.2	.007	. .	.704
	17.8	13.5	.025	+ 0.083	.703
		15.1	− 0.004	. .	+ 0.703
	18.9	15.3	+ 0.010	+ 0.010	.500
	19.0	17.9	.048	. .	.500
	20.4	2.3	.027	− 0.044	.422
		3.9	.023	. .	.422
	23.4	3.8	+ 0.019	− 0.036	+ 0.850
		6.3	.013	. .	.850
	23.9	16.1	.013	.038	.788
	24.0	18.2	.027	. .	.788
		21.6	.029	. .	.788
	27.2	0.3	+ 0.095	− 0.168	+ 0.847
		2.0	.090	. .	0.847
	28.3	1.3	.079	− 0.063	1.110
		2.4	+ 0.075	. .	1.110
	30.9	15.9	− 0.029	+ 0.120	1.177
	31.0	18.7	− 0.005	. .	+ 1.177
		21.1	.003	. .	1.177
	31.2	1.3	.017	+ 0.098	1.177
		4.2	.017	. .	+ 1.177

TABLE B.—*Adopted Corrections to the Right Ascensions of the Clock Stars in the American Ephemeris for the year* 1881.

		s.
α	Andromedæ	+ 0.03
γ	Pegasi	+ 0.01
β	Ceti	+ 0.07
ε	Piscium	— 0.02
θ¹	Ceti	0.00
η	Piscium	+ 0.09
ο	Piscium	— 0.06
β	Arietis	+ 0.02
α	Arietis	+ 0.01
ξ¹	Ceti	+ 0.09
γ	Ceti	— 0.02
α	Ceti	+ 0.01
ζ	Arietis	0.00
α	Persei	+ 0.09
δ	Persei	+ 0.19
η	Tauri	+ 0.01
ζ	Persei	+ 0.02
χ¹	Eridani	+ 0.04
γ	Tauri	+ 0.02
ε	Tauri	+ 0.01
α	Tauri	— 0.01
ι	Aurigæ	+ 0.02
11	Orionis	— 0.09
α	Aurigæ	— 0.01
β	Orionis	0.00
β	Tauri	+ 0.02
δ	Orionis	— 0.04
α	Leporis	— 0.07
ε	Orionis	0.00
α	Columbæ	— 0.02
α	Orionis	— 0.02
μ	Geminorum	— 0.03
γ	Geminorum	— 0.04
α	Canis Majoris	— 0.01
ε	Canis Majoris	— 0.06
δ	Canis Majoris	— 0.06
δ	Geminorum	— 0.05
α²	Geminorum	+ 0.30
α	Canis Minoris	— 0.21
β	Geminorum	— 0.02
φ	Geminorum	— 0.08
15	Argus	— 0.08
ε	Hydræ	— 0.06
ι	Ursæ Majoris	— 0.01
κ	Cancri	+ 0.04
α	Hydræ	— 0.02
ε	Leonis	— 0.04
μ	Leonis	+ 0.04
α	Leonis	— 0.05
γ¹	Leonis	+ 0.02
ρ	Leonis	— 0.05
l	Leonis	+ 0.03
δ	Leonis	— 0.06
δ	Crateris	— 0.01
τ	Leonis	— 0.04
υ	Leonis	— 0.04
β	Leonis	— 0.01
ο	Virginis	— 0.05
η	Virginis	— 0.01
β	Corvi	+ 0.01
12	Canum Venaticorum	+ 0.03
θ	Virginis	— 0.05
α	Virginis	— 0.04
ζ	Virginis	— 0.01
η	Ursæ Majoris	— 0.03
η	Bootis	— 0.04
α	Bootis	+ 0.02
θ	Bootis	+ 0.08
ε	Bootis	+ 0.01
α²	Libræ	0.00
β	Bootis	+ 0.03
β	Libræ	0.00
μ¹	Bootis	— 0.05
α	Coronæ Borealis	+ 0.01
α	Serpentis	+ 0.03
ε	Serpentis	— 0.01
ε	Coronæ Borealis	— 0.05
δ	Scorpii	+ 0.02
β¹	Scorpii	+ 0.06
δ	Ophiuchi	+ 0.02
τ	Herculis	+ 0.18
α	Scorpii	— 0.03
ζ	Ophiuchi	0.00
η	Herculis	— 0.01
κ	Ophiuchi	+ 0.08
d	Herculis	+ 0.20
α¹	Herculis	+ 0.02
44	Ophiuchi	+ 0.02
α	Ophiuchi	+ 0.04
μ	Herculis	+ 0.04
γ²	Sagittarii	— 0.01
μ¹	Sagittarii	+ 0.03
η	Serpentis	+ 0.11
1	Aquilæ	+ 0.08
α	Lyræ	+ 0.02
β	Lyræ	+ 0.04
σ	Sagittarii	0.00
ζ	Aquilæ	+ 0.12
d	Sagittarii	+ 0.03
δ	Aquilæ	+ 0.07
κ	Aquilæ	+ 0.04
γ	Aquilæ	+ 0.03
α	Aquilæ	+ 0.04
β	Aquilæ	+ 0.05
τ	Aquilæ	+ 0.03
α²	Capricorni	+ 0.06
π	Capricorni	+ 0.04
ε	Delphini	+ 0.07
α	Cygni	+ 0.04
μ	Aquarii	+ 0.08
ν	Cygni	+ 0.04
61¹	Cygni	— 0.04
ζ	Cygni	+ 0.02
1	Pegasi	— 0.07
β	Aquarii	+ 0.01
ξ	Aquarii	+ 0.06
ε	Pegasi	0.00
μ	Capricorni	0.00
α	Aquarii	+ 0.02
θ	Aquarii	+ 0.02
π	Aquarii	+ 0.03
η	Aquarii	+ 0.04
ζ	Pegasi	+ 0.10
λ	Aquarii	+ 0.11
α	Piscis Australis	+ 0.01
α	Pegasi	+ 0.02
θ	Piscium	+ 0.05
ι	Piscium	— 0.04
ω	Piscium	0.00

TABLE C.—*Adopted Corrections and Rates of the Kessels Sidereal Clock, No.* 1324 *in* 1881.

Mean Day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.
1881.		h.	s.	s.
Jan. 17.3	E.	2.40	— 14.338	
				+ 0.021
17.4	.	6.20	— 14.257	
				— 0.030
17.9	R.	19.20	— 14.130	
18.1	.	21.30	— 14.193	
				— 0.008
23.8	R.	14.60	— 12.377	
23.8	.	15.33	— 12.383	
				— 0.007
23.9	W.	18.60	— 12.810	
24.4	.	6.70	— 12.853	
				+ 0.015
25.9	S.	19.13	— 12.533	
26.1	.	22.40	— 12.483	
				— 0.017
26.9	R.	20.23	— 12.873	
27.1	.	23.50	— 12.930	
				+ 0.033
27.3	.	4.53	— 12.990	
27.4	.	6.98	— 12.908	
				— 0.046
27.5	.	9.83	— 13.040	
				— 0.014
27.9	W.	19.37	— 13.270	
28.1	.	23.18	— 13.322	
				+ 0.006
28.4	.	5.30	— 13.380	
28.5	.	8.93	— 13.360	
				— 0.015
Feb. 3.9	R.	19.32	— 14.985	
4.1	.	0.75	— 15.067	
				— 0.013
4.9	W.	19.18	— 15.610	
5.1	.	0.84	— 15.683	
				— 0.009
5.4	.	6.60	— 15.735	
				— 0.001
6.1	E.	1.38	— 15.686	
6.2	.	3.52	— 15.688	
				— 0.042
11.9	R.	20.67	— 17.540	
12.1	.	23.50	— 17.660	
				— 0.021
12.2	.	1.73	— 17.707	
				+ 0.007
13.9	E.	19.50	— 19.043	
14.1	.	23.50	— 19.015	
				— 0.014
15.9	R.	19.97	— 19.723	
16.1	.	0.76	— 19.788	
				— 0.041
16.4	.	6.47	— 19.850	

Mean Day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.
1881.		h.	s.	s.
Feb. 16.4	.	8.55	— 19.935	
				— 0.015
16.6	.	11.33	— 19.977	
				— 0.042
16.6	.	13.20	— 20.055	
16.9	W.	19.93	— 20.290	
				— 0.010
17.1	.	1.03	— 20.343	
				— 0.024
17.3	.	5.80	— 20.458	
19.3	S.	5.68	— 21.158	
				— 0.040
19.4	.	8.70	— 21.280	
21.4	W.	7.15	— 23.062	
				— 0.057
21.5	.	11.00	— 23.280	
23.9	R.	20.48	— 24.876	
				+ 0.004
24.1	.	0.40	— 24.860	
24.9	W.	21.35	— 25.875	
25.9	E.	20.67	— 26.250	
Mar. 1.3	W.	6.77	— 29.973	
				— 0.071
1.4	.	10.47	— 30.237	
2.3	E.	6.07	— 30.743	
				— 0.038
2.4	.	9.48	— 30.872	
5.3	W.	6.80	— 33.910	
6.2	E.	3.75	— 34.365	
				+ 0.027
6.2	.	4.57	— 34.343	
6.9	S.	21.52	— 34.920	
				— 0.010
7.1	.	0.55	— 34.950	
7.3	.	6.47	— 35.087	
				— 0.046
7.4	.	9.63	— 35.233	
7.9	R.	20.60	— 35.530	
				— 0.006
8.1	.	0.10	— 35.550	
10.3	E.	6.47	— 38.873	
				— 0.038
10.4	.	9.80	— 39.000	
10.9	S.	21.60	— 39.480	
				— 0.050
11.1	.	1.90	— 39.695	
11.3	.	6.40	— 39.840	
				— 0.051
11.4	.	9.53	— 40.000	
13.4	W.	10.05	— 42.440	

TABLE C.—*Adopted Corrections and Rates of the Kessels Sidereal Clock, etc.*—Continued.

Mean Day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.	Mean Day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.
1881.		h.	s.	s.	1881.		h.	s.	s.
Mar. 14.3	R.	6.60	— 42.955		April 22.3	W.	9.70	— 29.107	
				— 0.014					— 0.010
14.3	.	7.30	— 42.965		22.5	.	13.40	— 29.145	
									— 0.019
14.9	E.	21.85	— 43.690		22.5	.	14.53	— 29.167	
				— 0.040					— 0.060
15.1	.	1.90	— 43.850		22.8	.	21.28	— 29.570	
				— 0.024					
15.3	.	6.87	— 43.967		22.9	E.	0.23	— 29.513	
									— 0.029
23.8	S.	19.15	— 13.000		23.1	.	4.00	— 29.623	
				— 0.017					
23.8	.	19.75	— 13.010		23.3	.	9.97	— 29.553	
									— 0.044
24.0	R.	2.50	— 13.330		23.5	.	13.13	— 29.693	
24.3	.	6.70	— 13.337		25.9	W.	0.85	— 31.540	
				— 0.038					
24.4	.	11.08	— 13.502		27.9	S.	0.00	— 32.320	
									— 0.030
24.9	W.	0.00	— 14.130		28.1	.	4.50	— 32.455	
				0.000					
25.1	.	1.85	— 14.130		28.3	.	9.93	— 32.523	
				— 0.033					— 0.022
25.3	.	8.85	— 14.360		28.4	.	13.83	— 32.610	
27.9	R.	22.42	— 15.090		29.4	R.	11.30	— 33.380	
				+ 0.016					— 0.018
28.1	.	1.97	— 15.033		29.5	.	14.80	— 33.443	
28.3	.	6.80	— 15.195		29.9	W.	0.45	— 34.178	
				+ 0.043					— 0.002
28.4	.	9.00	— 15.100		30.1	.	4.95	— 34.185	
29.4	W.	9.20	— 15.788		30.4	.	11.73	— 34.133	
				— 0.075					— 0.009
29.5	.	12.77	— 16.057		30.5	.	14.47	— 34.157	
April 2.1	W.	3.70	— 17.950		May 1.1	E.	5.20	— 34.067	
				— 0.013					— 0.036
2.3	.	8.88	— 18.015		1.1	.	6.40	— 34.110	
4.4	S.	9.73	— 18.623		7.3	R.	11.25	— 37.422	
				— 0.060					+ 0.006
4.5	.	12.80	— 18.807		7.5	.	14.47	— 37.403	
5.2	R.	6.92	— 19.357		8.3	W.	11.10	— 38.273	
				— 0.021					— 0.024
5.4	.	11.23	— 19.447		8.4	.	13.00	— 38.318	
10.4	W.	10.72	— 21.770		8.9	E.	0.23	— 38.807	
				0.000					— 0.001
10.5	.	13.18	— 21.770		9.0	.	4.87	— 38.813	
10.9	E.	22.83	— 21.860		9.3	.	11.35	— 38.848	
				— 0.015					— 0.030
11.3	.	9.03	— 22.010		9.4	.	13.17	— 38.903	
				— 0.045					
11.4	.	11.15	— 22.105		9.9	S.	1.23	— 39.047	
									— 0.009
15.1	E.	4.00	— 24.573		10.0	.	5.00	— 39.083	
				— 0.044					
15.3	.	9.40	— 24.810		10.3	.	10.40	— 39.175	
									— 0.078
16.4	S.	10.42	— 25.115		10.4	.	12.47	— 39.337	
				— 0.035					+ 0.044
16.5	.	13.20	— 25.200		10.5	.	14.35	— 39.255	

TABLE C.—*Adopted Corrections and Rates of the Kessels Sidereal Clock, etc.*—Continued.

Mean Day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.
1881.		h.	s.	s.
May 11.9	W.	1.55	— 40.620	
				— 0.023
12.4	.	11.85	— 40.858	
				— 0.077
12.5	.	14.60	— 41.070	
16.3	W.	11.18	— 44.016	
20.3	W.	12.35	— 46.872	
				— 0.043
20.5	.	16.25	— 47.038	
21.3	E.	12.53	— 47.587	
				— 0.003
21.4	.	13.47	— 47.590	
24.4	W.	14.40	— 49.776	
				— 0.025
24.5	.	17.40	— 49.850	
24.9	E.	2.50	— 50.285	
				— 0.028
25.1	.	6.20	— 50.340	
25.4	.	13.17	— 50.410	
				+ 0.037
25.5	.	15.67	— 50.317	
26.9	R.	2.45	— 51.535	
				— 0.010
27.1	.	7.02	— 51.582	
27.4	.	14.07	— 51.570	
				— 0.031
27.5	.	16.67	— 51.650	
27.9	W.	2.65	— 52.710	
				+ 0.013
28.1	.	6.78	— 52.658	
28.4	.	12.60	— 52.676	
				— 0.015
28.5	.	15.35	— 52.718	
30.9	R.	2.73	— 54.320	
				— 0.015
31.1	.	7.00	— 54.385	
June 8.3	R.	14.56	— 60.634	
10.9	S.	3.37	— 63.637	
				— 0.018
11.1	.	7.28	— 63.708	
11.5	W.	17.63	— 64.260	
				— 0.179
11.5	.	18.55	— 64.425	
12.5	R.	16.83	— 64.877	
				— 0.014
12.6	.	19.23	— 64.910	
13.4	W.	14.50	— 65.715	
15.9	R.	3.40	— 68.530	
				— 0.069
16.1	.	5.17	— 68.653	

Mean Day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.
1881.		h.	s.	s.
June 17.9	E.	3.62	— 70.782	
				— 0.005
18.1	.	7.55	— 70.800	
18.4	.	15.00	— 71.117	
				— 0.044
18.5	.	18.47	— 71.270	
19.9	R.	4.14	— 72.722	
				— 0.041
20.1	.	7.35	— 72.855	
20.9	W.	4.10	— 14.223	
				— 0.016
21.1	.	7.36	— 14.276	
21.3	.	14.20	— 14.515	
22.4	E.	14.92	— 15.355	
				— 0.026
22.5	.	18.47	— 15.447	
23.9	R.	3.83	— 16.540	
				— 0.020
24.4	.	16.75	— 16.802	
				— 0.026
24.6	.	20.00	— 16.888	
26.4	E.	16.95	— 18.908	
				— 0.048
26.5	.	18.30	— 18.973	
28.4	R.	16.40	— 21.800	
				— 0.060
28.5	.	18.70	— 21.937	
29.4	W.	16.65	— 24.040	
				— 0.057
29.5	.	18.93	— 24.170	
29.9	E.	4.68	— 24.712	
				— 0.037
30.1	.	7.60	— 24.820	
July 1.4	S.	15.30	— 26.107	
				— 0.014
1.5	.	17.93	— 26.137	
1.9	R.	4.70	— 26.820	
				— 0.045
2.1	.	10.08	— 27.064	
2.5	.	17.60	— 27.317	
				— 0.012
2.6	.	20.08	— 27.346	
3.2	W.	12.30	— 28.175	
				— 0.054
3.4	.	16.90	— 28.425	
4.9	S.	5.27	— 30.043	
				— 0.028
5.3	.	14.78	— 30.310	
				— 0.036
5.5	.	18.68	— 30.450	

TABLE C.—*Adopted Corrections and Rates of the Kessels Sidereal Clock, etc.*—Continued.

Mean Day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.	Mean Day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.
1881.		h.	s.	s.	1881.		h.	s.	s.
July 5.9	R.	3.75	— 31.190	— 0.113	July 22.7	R.	0.37	— 57.043	— 0.010
5.9	.	5.50	— 31.388		22.7	.	1.27	— 57.053	
6.5	.	19.10	— 31.900	— 0.056	22.9	W.	6.85	— 57.845	— 0.048
6.5	.	20.35	— 31.970		23.1	.	10.05	— 58.000	
6.9	W.	5.87	— 32.800	— 0.151	23.6	.	21.80	— 58.790	— 0.054
7.1	.	7.60	— 33.160		23.7	.	1.30	— 58.980	
7.9	E.	4.78	— 34.008	— 0.056	25.9	R.	6.33	— 61.837	— 0.063
8.1	.	9.70	— 34.283		26.1	.	10.05	— 62.070	
8.4	.	16.53	— 34.567	— 0.009	27.7	W.	1.40	— 64.896	
8.5	.	18.84	— 34.588		27.9	E.	5.50	— 5.078	— 0.062
9.4	S.	15.87	— 35.623	— 0.058	28.1	.	10.10	— 5.365	
9.5	.	18.53	— 35.777		28.6	.	23.02	— 6.072	— 0.010
10.4	R.	16.00	— 37.057	— 0.057	28.7	.	0.52	— 6.085	
10.5	.	20.38	— 37.308		Aug. 2.3	E.	16.75	— 12.678	— 0.019
10.9	W.	5.87	— 38.483	— 0.069	2.4	.	18.72	— 12.715	
11.6	.	21.34	— 39.544		2.9	R.	6.87	— 13.309	— 0.050
13.9	R.	5.48	— 44.176	— 0.065	3.1	.	10.93	— 13.513	
14.1	.	9.82	— 44.460		3.3	.	15.70	— 13.808	— 0.035
14.3	.	15.43	— 44.777	— 0.078	3.5	.	20.03	— 13.960	
14.5	.	20.56	— 45.178		4.3	W.	16.70	— 15.500	
15.5	W.	19.88	— 46.850	— 0.111	5.3	E.	16.78	— 16.740	— 0.042
15.5	.	21.53	— 47.033		5.4	.	18.53	— 16.813	
15.9	E.	5.30	— 47.430	— 0.064	7.9	W.	7.38	— 20.358	— 0.050
16.5	.	20.54	— 48.406		8.1	.	10.93	— 20.537	
17.9	R.	5.24	— 50.384	— 0.035	8.3	.	17.57	— 20.983	— 0.057
18.1	.	10.00	— 50.550		8.4	.	20.75	— 21.165	
18.4	.	18.37	— 51.017	— 0.058	10.9	R.	6.60	— 24.370	— 0.106
18.5	.	21.50	— 51.197	— 0.053	10.9	.	7.57	— 24.473	
18.8	.	1.78	— 51.422		11.4	.	19.50	— 25.103	— 0.059
18.9	W.	6.10	— 52.008	— 0.056	11.5	.	22.60	— 25.286	
19.1	.	10.40	— 52.250		12.3	W.	17.46	— 26.748	— 0.039
19.5	.	19.88	— 52.752	— 0.073	12.4	.	20.22	— 26.855	
19.6	.	22.37	— 52.933		14.9	R.	7.28	— 29.715	— 0.055

TABLE C.—*Adopted Corrections and Rates of the Kessels Sidereal Clock, etc.*—Continued.

Mean Day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.	Mean Day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.
1881.		h.	s.	s.	1881.		h.	s.	s.
Aug. 15.4	.	18.88	— 30.352	— 0.088	Sept. 20.4	R.	20.42	— 24.840	+ 0.010
15.5	.	21.63	— 30.593		20.5	.	23.33	— 24.810	
16.4	W.	18.60	— 31.980	— 0.021	23.9	R.	10.08	— 24.454	+ 0.017
16.4	.	20.33	— 32.017		24.1	.	14.85	— 24.375	
19.6	R.	4.30	— 36.150	— 0.062	24.3	.	20.03	— 24.313	+ 0.001
19.7	.	6.44	— 36.282		24.4	.	23.85	— 24.308	
19.9	W.	8.20	— 36.690	— 0.058	29.3	S.	19.94	— 24.010	— 0.009
20.4	.	18.74	— 37.304	— 0.047	29.4	.	22.25	— 24.030	
20.5	.	21.67	— 37.441		30.4	R.	21.20	— 24.008	— 0.007
22.3	W.	18.51	— 39.400	— 0.082	30.5	.	23.98	— 24.028	
22.4	.	20.68	— 39.578		Oct. 1.3	S.	20.68	— 23.946	+ 0.043
22.9	R.	7.57	— 39.890	— 0.069	1.4	.	23.70	— 23.817	
23.1	.	12.00	— 40.195		5.3	S.	21.06	— 23.063	
23.3	.	17.73	— 40.337	— 0.045	6.3	R.	20.53	— 22.001	+ 0.034
23.4	.	20.27	— 40.452	— 0.074	6.5	.	23.90	— 21.888	
23.5	.	23.97	— 40.667		7.3	W.	21.74	— 21.492	
24.4	W.	19.40	— 41.847	— 0.033	8.3	R.	20.12	— 20.778	+ 0.002
24.5	.	21.30	— 41.910		8.4	.	21.94	— 20.774	
25.3	E.	18.38	— 28.378	+ 0.016	9.9	R.	11.52	— 20.110	+ 0.041
25.4	.	20.73	— 28.340		10.1	.	14.50	— 19.988	
26.3	S.	17.92	— 27.950	— 0.019	10.3	.	20.18	— 19.934	+ 0.010
26.5	.	21.47	— 28.017		10.4	.	23.32	— 19.902	+ 0.010
26.9	R.	7.60	— 28.040	— 0.004	10.5	.	1.63	— 19.880	
27.1	.	13.05	— 28.060		10.9	W.	11.40	— 19.970	+ 0.037
27.3	.	18.70	— 28.045	+ 0.035	11.1	.	14.97	— 19.839	
27.4	.	20.57	— 27.980	— 0.008	11.3	.	20.33	— 19.777	+ 0.011
27.5	.	23.10	— 28.000		11.4	.	1.32	— 19.720	
29.3	E.	18.40	— 27.577	+ 0.044	13.3	S.	19.85	— 18.640	+ 0.071
29.4	.	20.62	— 27.480		13.4	.	21.63	— 18.513	
30.9	R.	7.60	— 27.495		15.1	W.	15.95	— 17.900	+ 0.074
Sept. 5.4	R.	20.35	— 27.010	+ 0.045	15.1	.	16.90	— 17.830	
5.4	.	21.45	— 26.960		15.5	.	1.30	— 17.588	+ 0.008
19.3	S.	19.47	— 24.690	+ 0.002	15.6	.	3.62	— 17.570	+ 0.050
19.4	.	22.80	— 24.682		15.8	.	8.25	— 17.338	

TABLE C.—*Adopted Corrections and Rates of the Kessels Sidereal Clock, etc.*—Continued.

Mean Day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.
1881.		h.	s.	s.
Oct. 16.9	S.	11.87	— 16.367	
				+ 0.011
17.1	.	15.37	— 16.327	
17.3	.	20.37	— 16.203	
				— 0.023
17.4	.	22.65	— 16.255	
17.8	.	8.55	— 16.110	
				— 0.078
17.8	.	9.90	— 16.215	
17.9	R.	11.67	— 16.390	
				+ 0.022
18.1	.	13.95	— 16.340	
18.9	W.	12.25	— 16.285	
19.9	E.	11.33	— 15.293	
				+ 0.024
20.1	.	16.10	— 15.180	
20.3	.	20.87	— 14.847	
				+ 0.032
20.4	.	0.42	— 14.732	
20.9	S.	12.25	— 14.070	
				+ 0.009
21.1	.	15.55	— 13.765	
21.3	.	20.65	— 13.455	
				+ 0.034
21.4	.	0.25	— 13.332	
21.9	R.	12.25	— 13.055	
				+ 0.045
22.1	.	15.60	— 12.905	
22.3	.	20.50	— 12.688	
				+ 0.042
22.5	.	1.70	— 12.477	
25.1	S.	15.20	— 11.052	
				+ 0.063
25.1	.	15.95	— 11.005	
25.3	.	20.95	— 10.918	
				0.000
25.5	.	1.60	— 10.917	
26.3	R.	20.26	— 10.650	
				+ 0.001
26.4	.	0.03	— 10.647	
				+ 0.026
26.5	.	2.60	— 10.580	
26.9	W.	16.14	— 10.620	
				+ 0.077
27.1	.	18.15	— 10.465	
27.5	.	2.23	— 10.457	
				+ 0.001
27.6	.	5.42	— 10.455	
Nov. 3.9	W.	13.80	— 10.360	
				+ 0.024
4.1	.	16.94	— 10.286	
				+ 0.016
4.4	.	0.22	— 10.170	

Mean day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.
1881.		h.	s.	s.
Nov. 5.4	E.	23.90	— 9.098	
				+ 0.018
5.5	.	2.12	— 9.058	
13.7	E.	9.37	— 6.193	
				— 0.045
13.8	.	10.20	— 6.230	
13.9	S.	14.07	— 5.960	
				+ 0.004
14.1	.	16.50	— 5.950	
14.2	.	21.60	— 5.875	
				+ 0.005
14.4	.	0.42	— 5.860	
14.7	.	9.73	— 5.700	
				+ 0.078
14.8	.	10.75	— 5.620	
14.9	R.	14.00	— 5.673	
				+ 0.033
15.1	.	17.32	— 5.565	
15.3	.	22.22	— 5.438	
				+ 0.031
15.5	.	3.20	— 5.282	
15.8	.	10.85	— 5.022	
				+ 0.054
15.8	.	12.10*	— 4.955	
15.9	W.	13.60	— 5.277	
				+ 0.016
16.1	.	16.96	— 5.222	
16.3	.	23.78	— 4.865	
				+ 0.031
16.4	.	2.43	— 4.783	
16.9	E.	13.67	— 4.490	
				+ 0.030
17.1	.	18.00	— 4.358	
22.3	S.	23.72	— 3.338	
				— 0.001
22.4	.	2.00	— 3.340	
24.4	W.	1.90	— 3.390	
				+ 0.040
24.5	.	4.37	— 3.290	
24.9	E.	14.42	— 2.908	
				+ 0.035
25.1	.	19.16	— 2.740	
25.4	.	1.20	— 2.510	
				+ 0.041
25.5	.	3.90	— 2.398	
27.2	R.	22.40	— 0.845	
				+ 0.021
27.5	.	3.80	— 0.730	
27.9	W.	14.55	— 0.765	
				+ 0.024
28.1	.	18.43	— 0.670	

TABLE C.—*Adopted Corrections and Rates of the Kessels Sidereal Clock, etc.*—Continued.

Mean day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.	Mean day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.
1881.		h.	s.	s.	1881.		h.	s.	s.
Nov. 28.3	·	23.50	— 0.485	+ 0.048	Dec. 15.9	S.	15.32	+ 3.965	+ 0.008
28.4	·	0.65	— 0.430		16.1	·	18.77	+ 3.993	
29.3	E.	23.67	— 0.217		16.7	·	11.70	+ 4.740	+ 0.003
					16.8	·	13.83	+ 4.747	
Dec. 1.3	R.	0.20	— 0.062	— 0.026	16.9	R.	15.68	+ 4.675	+ 0.036
1.5	·	4.37	— 0.170		17.1	·	19.75	+ 4.820	
1.9	W.	14.85	— 0.605	+ 0.050	17.3	·	0.90	+ 5.117	+ 0.047
1.9	·	15.55	— 0.570	+ 0.008	17.5	·	5.60	+ 5.340	
2.4	·	3.37	— 0.477		18.9	E.	15.60	+ 6.234	
5.3	R.	0.72	+ 0.098	+ 0.014	20.4	S.	2.85	+ 7.380	— 0.047
5.5	·	5.33	+ 0.162		20.4	·	3.77	+ 7.337	
7.3	E.	1.80	+ 0.006	+ 0.015	23.4	E.	3.80	+ 7.340	+ 0.012
7.4	·	3.75	+ 0.035		23.5	·	6.03	+ 7.367	
8.9	R.	15.12	+ 0.520	+ 0.014	23.9	S.	16.40	+ 7.512	+ 0.035
9.1	·	18.78	+ 0.570		24.1	·	19.75	+ 7.630	— 0.013
9.4	·	2.50	+ 0.658	+ 0.052	24.1	·	21.27	+ 7.610	
9.4	·	3.30	+ 0.700		27.2	E.	0.75	+ 8.510	+ 0.081
10.4	W.	2.16	+ 0.998	+ 0.006	27.3	·	1.55	+ 8.575	
10.5	·	4.98	+ 1.015		28.3	S.	1.98	+ 8.478	
15.3	E.	1.52	+ 3.566	+ 0.051	30.9	E.	16.13	+ 7.830	+ 0.035
15.4	·	3.80	+ 3.683		31.1	·	20.67	+ 7.987	
15.8	·	13.20	+ 3.735	+ 0.125	31.2	·	1.83	+ 8.220	+ 0.036
15.8	·	13.80	+ 3.810		31.3	·	3.82	+ 8.292	

TABLE D.—*Zenith-Point Corrections derived from observations of the Nadir and Reflected Stars in* 1881.

Mean Day.	Sidereal Hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881,	h.			′ ″	′ ″
Jan. 15.1	21.6	E.	Nadir . . .	. .	+0 34.87
17.3	4.0	E.	B. A. C. 1254	+0 33.18	
	5.6	.	Nadir . . .	33.68	+0 34.24
	6.5	.	B. A. C. 2129	34.29	
18.1	22.5	R.	Nadir . . .	. .	+0 32.45
22.4	4.9	S.	B. A. C. 1536	+0 32.72	
	5.9	.	B. A. C. 1939	33.78	+0 34.13
	6.8	.	Nadir . . .	34.31	
23.7	14.2	R.	α Bootis . . .	+0 33.08	
	14.3	.	θ Bootis . . .	34.79	+0 34.83
	16.1	.	Nadir . . .	35.05	
23.9	20.1	W.	Nadir . . .	. .	+0 34.52
24.5	7.8	W.	Nadir . . .	. .	+0 34.11
25.9	20.1	S.	Nadir . . .	. .	+0 34.11
27.0	21.2	R.	Nadir . . .	+0 30.36	
27.1	23.3	.	Nadir . . .	30.83	+0 30.60
27.4	5.3	R.	β Tauri . . .	+0 32.60	
	8.1	.	Nadir . . .	33.37	
	9.6	.	B. A. C. 3303	33.04	+0 33.16
	10.1	.	32 Ursæ Majoris	30.86	
	10.4	.	9 Draconis . .	32.77	
27.9	20.0	W.	Nadir . . .	. .	+0 32.67
28.2	0.2	W.	Nadir . . .	+0 31.66	
	4.7	.	α Camelop. . .	31.95	
	5.8	.	α Orionis . .	33.64	+0 33.31
	8.7	.	ε Hydræ . . .	32.74	
	8.9	.	ι Ursæ Majoris	32.63	
	10.0	.	Nadir . . .	34.11	
Feb. 3.9	20.6	R.	Nadir. . . .	+0 31.28	+0 31.36
4.1	23.8	.	Nadir . . .	31.45	
4.9	20.2	W.	Nadir . . .	+0 30.68	+0 30.96
5.2	2.0	.	α Arietis . . .	30.93	
5.5	8.7	W.	ε Hydræ . . .	32.08	+0 32.39
6.1	0.6	E.	α Cassiopeæ .	+0 28.19	
	2.0	.	α Arietis . . .	31.40	+0 30.91
	2.8	.	Nadir . . .	+0 31.56	
1881.	h.			′ ″	′ ″
Feb. 11.9	21.5	R.	Nadir . . .	+0 35.38	+0 35.92
12.1	0.9	.	Nadir . . .	36.46	
13.9	20.5	E.	Nadir . . .	+0 37.20	+0 36.67
14.1	1.0	.	Nadir . . .	36.14	
15.9	20.8	R.	Nadir . . .	+0 38.12	+0 37.61
16.2	1.8	.	Nadir . . .	37.10	
16.3	5.5	R.	ε Orionis . . .	+0 38.80	
	5.7	.	B. A. C. 1849	35.68	
	9.3	.	Nadir . . .	38.02	+0 38.28
	12.6	.	B. A. C. 4271	37.86	
	12.8	.	32ᵈ Camelop. . .	37.90	
16.9	21.5	W.	Nadir . . .	. .	+0 34.53
17.3	5.5	W.	ε Orionis . .	+0 36.49	+0 37.52
	9.8	.	Nadir . . .	38.23	
19.3	5.7	S.	B. A. C. 1849	+0 35.21	
	6.0	.	B. A. C. 1939	37.02	+0 37.09
	8.9	.	Nadir . . .	37.47	
21.6	9.7	W.	B. A. C. 3346	+0 36.07	
	10.0	.	α Leonis . . .	37.81	+0 37.57
	11.5	.	Nadir . . .	37.26	
23.9	21.8	R.	Nadir . . .	+0 35.58	+0 35.68
24.1	0.9	.	Nadir . . .	35.79	
24.9	22.3	W.	Nadir . . .	. .	+0 34.58
25.9	21.7	E.	Nadir . . .	. .	+0 36.58
Mar. 1.3	7.5	W.	Nadir . . .	. .	+0 37.61
2.4	8.0	E.	3 Ursæ Majoris	+0 34.34	
	8.4	.	η Cancri . . .	36.86	+0 36.38
	9.0	.	Nadir . . .	36.36	
5.4	8.4	W.	Nadir . . .	. .	+0 36.07
6.2	4.1	E.	Nadir . . .	. .	+0 35.49
7.1	0.8	S.	Nadir . . .	. .	+0 33.71
7.3	5.5	S.	B. A. C. 1767	+0 34.90	
	5.7	.	B. A. C. 1849	32.34	+0 34.63
	9.5	.	Nadir . . .	35.08	

Table D.—*Zenith-Point Corrections, etc.*—Continued.

Mean Day.	Sidereal Hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881.	h.			′ ″	′ ″
Mar. 7.9	22.2	R.	Nadir . . .	. .	+0 35.60
10.4	9.0	E.	Nadir . . .	+0 37.58	
	9.6	.	B. A. C. 3303	35.88	+0 37.22
	10.4	.	9 Draconis . .	36.64	
11.1	1.0	S.	Nadir . . .	. .	+0 35.84
11.4	10.9	S.	Nadir . . .	. .	+0 37.04
13.5	10.4	W.	9 Draconis . .	+0 35.16	+0 36.42
14.4	8.4	R.	Nadir . . .	. .	+0 36.80
15.3	7.5	E.	Nadir . . .	. . .	+0 35.97
21.5	11.4	W.	Nadir . . .	. .	+0 34.38
24.1	1.6	R.	Nadir . . .	. .	+0 34.38
24.4	9.0	R.	σ^2 Ursæ Majoris	+0 33.96	
	9.8	.	Nadir . . .	35.14	+0 35.87
	11.7	.	B. A. C. 3981	36.00	
25.1	2.4	W.	Nadir . . .	. . .	+0 35.74
25.4	8.9	W.	ι Ursæ Majoris	+0 33.87	
	9.7	.	Nadir . . .	35.83	+0 35.48
27.9	23.5	R.	Nadir . . .	+0 35.90	
28.1	2.3	.	Nadir . . .	35.30	+0 35.60
28.3	7.2	R.	δ Geminorum .	(+0 32.16)	
	7.9	.	Nadir . . .	37.35	+0 37.35
29.4	9.3	W.	1 Draconis . .	+0 34.68	
	11.3	.	Nadir . . .	36.37	+0 36.26
	12.0	.	Virginis . .	36.15	
Apr. 2.4	10.3	W.	Nadir . . .	. .	+0 36.49
4.4	12.6	S.	Nadir . . .	. .	+0 36.27
5.3	7.6	R.	α Canis Minoris	+0 36.06	
	9.0	.	σ^2 Ursæ Majoris	33.44	
	9.7	.	Nadir . . .	36.22	+0 35.96
	10.9	.	α Ursæ Majoris	34.63	
	12.0	.	o Virginis . .	36.29	
1881.	h.			′ ″	′ ″
Apr. 10.4	11.7	W.	B. A. C. 3981	+0 34.46	
	12.1	.	4 Draconis . .	37.23	+0 36.74
	12.7	.	Nadir . . .	36.02	
10.9	23.6	E.	Nadir . . .	. .	+0 36.72
11.3	9.6	E.	Nadir . . .	+0.35.73	
	9.9	.	B. A. C. 3415	35.83	+0 35.47
	10.2	.	32 Ursæ Majoris	33.28	
15.1	3.5	E.	Nadir . . .	. .	+0 36.35
16.3	8.4	S.	Nadir . . .	+0 35.46	
	12.6	.	B. A. C. 4271	34.98	+0 35.96
	12.8	.	B. A. C. 4335	35.88	
22.4	10.6	W.	B. A. C. 3652	+0 33.72	
	11.7	.	β Leonis . . .	35.80	+0 35.81
	12.6	.	Nadir . . .	36.34	
22.8	22.5	W.	Nadir . . .	. .	+0 38.42
22.9	1.0	E.	Nadir . . .	+0 35.46	
23.1	4.3	.	Nadir . . .	36.66	+0.36.06
23.3	10.9	E.	α Ursæ Majoris	+0 35.48	
	11.1	.	δ Leonis . . .	36.60	+0 36.82
23.8	22.5	E.	Nadir . . .	. .	+0 36.22
25.9	2.0	W.	Nadir . . .	. .	+0 36.86
27.9	1.8	S.	Nadir . . .	. .	+0 37.99
28.3	8.8	S.	Nadir . . .	. .	+0 37.65
29.4	11.7	R.	β Leonis . . .	+0 38.28	
	12.9	.	Nadir . . .	38.17	+0 38.68
	14.9	.	β Ursæ Minoris	38.01	
29.9	2.3	W.	Nadir . . .	+0 39.29	
30.1	5.7	.	Nadir . . .	35.71	+0 37.50
30.4	12.3	W.	B. A. C. 4195	+0 36.02	
	14.4	.	θ Bootis . . .	34.92	+0 36.34
	14.8	.	Nadir . . .	36.51	
May 1.1	6.0	E.	Nadir . . .	. .	+0 34.65
7.3	10.9	R.	α Ursæ Majoris	+0 32.94	
	12.7	.	Nadir . . .	34.22	+0 34.21

TABLE D.—*Zenith-Point Corrections, etc.*—Continued.

Mean Day.	Sidereal Hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881.	h.			′ ″	′ ″
May 8.3	11.5	W.	υ Leonis . . .	+0 33.42	
	11.8	.	γ Ursæ Majoris	33.32	+0 33.58
	13.8	.	η Bootis . . .	32.76	
	14.0	.	Nadir . . .	32.95	
8.9	2.2	E.	Nadir . . .	. .	+0 33.61
9.4	12.3	E.	Nadir . . .	. .	+0 33.20
9.9	2.0	S.	Nadir . . .	. .	+0 33.72
10.3	9.7	S.	Nadir . . .	+0 34.60	
	11.1	.	δ Leonis . . .	33.70	+0 34.49
	12.2	.	B. A. C. 4123	33.62	
11.9	2.4	W.	Nadir . . .	. .	+0 36.05
12.5	12.5	W.	κ Draconis . .	+0 33.36	+0 34.64
	15.5	.	Nadir . . .	34.65	
16.4	10.9	W.	α Ursæ Majoris	+0 43.46	
	12.3	.	B. A. C. 4195	44.10	+0 45.37
	12.6	.	B. A. C. 4271	45.23	
	12.7	.	Nadir . . .	45.75	
20.3	12.1	W.	4 Draconis . .	+0 40.97	
	12.5	.	κ Draconis . .	42.02	
	13.0	.	Nadir . . .	42.60	+0 42.64
	13.8	.	η Bootis . . .	41.32	
	16.9	.	B. A. C. 5731	42.18	
21.4	14.0	E.	Nadir . . .	. .	+0 42.94
24.4	14.4	W.	ϑ Bootis . . .	+0 42.40	
	17.3	.	B. A. C. 5893	43.52	+0 44.06
	17.5	.	β Draconis . .	42.36	
	18.3	.	Nadir . . .	44.73	
24.9	3.4	E.	Nadir . . .	. .	+0 42.20
25.3	12.9	E.	B. A. C. 4367	+0 42.86	
	13.7	.	η Ursæ Majoris	41.50	+0 43.34
	14.3	.	Nadir . . .	43.59	
27.0	3.8	R.	Nadir . . .	+0 42.39	+0 41.98
	8.0	.	Nadir . . .	41.57	
27.4	13.7	R.	η Ursæ Majoris	+0 42.74	
	15.7	.	Nadir . . .	43.67	+0 43.65
	17.2	.	α^1 Herculis . .	42.48	
27.9	3.5	W.	Nadir . . .	+0 42.93	+0 42.48
	6.0	.	Nadir . . .	42.04	
1881.	h.			′ ″	′ ″
May 28.4	12.5	W.	κ Draconis . .	+0 42.46	
	13.7	.	Nadir . . .	44.11	+0 43.67
	14.4	.	ρ Bootis . . .	42.39	
30.9	3.9	R.	Nadir . . .	+0 43.08	+0 42 88
31.1	7.3	.	Nadir . . .	42.68	
June 8.4	14.9	R.	β Ursæ Minoris	+0 41.35	+0 42.35
	15.7	.	Nadir . . .	42.16	
10.9	4.1	S.	Nadir . . .	. .	+0 42.21
11.5	17.9	W.	γ Draconis . .	+0 40.43	
	19.0	.	ζ Aquilæ . . .	41.62	+0 42.18
	19.6	.	Nadir . . .	42.43	
12.5	16.3	R.	Nadir . . .	+0 42.01	+0 42.47
	16.9	.	κ Ophiuchi . .	42.06	
13.4	14.0	W.	α Draconis . .	+0 41.52	+0 43.11
	15.2	.	Nadir . . .	43.51	
15.9	4.7	R.	Nadir . . .	. .	+0 41.64
17.9	4.0	E.	Nadir . . .	. .	+0 42.64
18.5	17.7	E.	Nadir . . .	. .	+0 43.40
19.8	23.8	S.	Nadir . . .	. .	+0 42.40
19.9	5.4	R.	Nadir . . .	+0 42.73	+0 42.98
20.1	8.3	.	Nadir . . .	43.23	
20.9	5.4	W.	Nadir . . .	+0 42.64	+0 42.56
21.1	8.1	.	Nadir . . .	42.48	
21.3	14.3	W.	θ Bootis . . .	0+ 42.22	+0 43.19
	15.8	.	Nadir . . .	42.97	
22.4	17.2	E.	Nadir . . .	+0 43.58	+0 43.52
	17.5	.	β Draconis . .	42.28	
23.9	5.5	R.	Nadir . . .	. .	+0 40.31
24.4	16.3	R.	τ Herculis . .	+0 40.60	
	18.7	.	Nadir . . .	42.00	+0 41.71
	20.2	.	κ Cephei . . .	40.38	
	20.8	.	μ Aquarii . . .	40.61	
26.5	17.5	E.	Nadir . . .	. .	+0 41.54

TABLE D.—*Zenith-Point Corrections, etc.*—Continued.

Mean Day.	Sidereal hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881.	h.			′ ″	′ ″
June 27.5	19.0	S.	Nadir . . .	. .	+0 42.54
28.4	17.0	R.	ε Ursæ Minoris	+0 40.98	
	18.9	.	B. A. C. 6491	40.82	
	19.5	.	κ Aquilæ . . .	39.80	+0 41.47
	19.7	.	Nadir . . .	41.84	
	20.0	.	B. A. C. 6905	39.78	
29.6	20.3	W.	Nadir . . .	. .	+0 41.47
29.9	5.4	E.	Nadir . . .	. .	+0 41.03
July 1.4	15.4	S.	B. A. C. 5097	+0 38.11	
	16.6	.	B. A. C. 5604	39.53	+0 40.24
	17.7	.	Nadir . . .	41.02	
1.9	5.8	R.	Nadir . . .	+0 40.83	+0 40.20
2.1	10.4	R.	Nadir . . .	39.56	
2.5	19.2	R.	δ Draconis . .	+0 39.70	
	19.5	.	κ Aquilæ . . .	40.30	+0 41 02
	20.9	.	Nadir . . .	41.00	
3.3	13.0	W.	Nadir . . .	+0 39.76	
	17.2	.	α¹ Herculis . .	39.80	+0 40.09
	17.4	.	Nadir . . .	40.90	
	17.6	.	ω Draconis . .	37.84	
4.9	8.0	S.	Nadir . . .	. .	+0 38.43
5.3	15.0	S.	B. A. C. 4980	+0 36.64	+0 38.48
	15.3	.	Nadir . . .	39.14	
5.9	6.1	R.	Nadir . . .	. .	+0 38.76
6.6	20.6	R.	α Cygni . . .	+0 39.44	
	20.8	.	μ Aquarii . . .	38.72	+0 39.68
	21.3	.	Nadir . . .	38.82	
7.1	8.8	W.	Nadir . . .	. .	+0 39.37
7.9	5.0	E.	Nadir . . .	+0 39.77	+0 39.57
8.1	9.5	.	Nadir . . .	39.37	
8.5	18.3	E.	Nadir . . .	. .	+0 39.31
9.5	16.9	S.	B. A. C. 5731	+0 38.54	
	17.6	.	ω Draconis . .	37.04	+0 39 03
	19.2	.	Nadir . . .	39.44	
10.4	16.4	R.	η Draconis . .	+0 37.32	+0 38.34
	19.5	.	Nadir . . .	38.18	
1881.	h.			′ ″	′ ″
July 10.9	6.3	W.	Nadir . . .	. .	+0 38.20
11.6	22.1	W.	Nadir . . .	. .	+0 38.24
13.9	6.9	R.	Nadir . . .	+0 38.60	+0 38.56
	9.9	.	Nadir . . .	38.51	
14.4	16.5	R.	A Draconis . .	+0 37.20	
	18.7	.	Nadir . . .	38.32	+0 38.35
	21.3	.	α Cephei . . .	37.16	
15.6	22.5	W.	226 Cephei . . .	+0 37.41	+0 38.80
	22.8	.	Nadir . . .	39.01	
15.9	4.7	E.	Nadir . . .	+0 39.18	+0 38.48
16.1	9.9	.	Nadir . . .	37.78	
16.5	21.3	E.	Nadir . . .	. .	+0 38.72
17.9	5.8	R.	α Orionis . . .	+0 37.00	
	7.4	.	Nadir . . .	37.73	+0 37.69
	10.4	.	Nadir . . .	37.48	
18.5	19.2	R.	δ Draconis . .	+0 36.08	
	20.4	.	Nadir . . .	36.26	+0 36.65
	22.3	.	π Aquarii . . .	35.82	
	2.3	.	Nadir . . .	36.37	
18.9	7.0	W.	Nadir . . .	. .	+0 37.19
19.5	20.7	W.	B. A. C. 7220	+0 35.32	+0 37.44
	21.4	.	Nadir . . .	38.38	
22.7	0.3	R.	B. A. C. 79 .	+0 34.75	
	1.8	.	β Arietis . . .	35.56	+0 36.02
	2.3	.	Nadir . . .	35.70	
22.9	7.9	W.	Nadir . . .	. .	+0 36.65
23.6	22.9	W.	B. A. C. 8032	+0 33.97	+0 35.12
	2.2	.	Nadir . . .	35.40	
24.7	0.4	E.	Nadir . . .	. .	+0 35.68
25.9	7.5	R.	Nadir . . .	. .	+0 35.90
27.7	2.0	W.	α Arietis . . .	+0 35.50	+0 36.78
	3.0	.	Nadir . . .	37.18	
27.9	6.3	E.	Nadir . . .	. .	+0 35.66

TABLE D.—*Zenith-Point Corrections, etc.*—Continued.

Mean Day.	Sidereal Hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881.	h.			′ ″	′ ″
July 28.6	0.3	E.	Nadir . . .	. .	+0 39.36
31.2	14.4	W.	Nadir . . .	. .	+0 37.01
Aug. 2.4	18.3	E.	Nadir . . .	. .	+0 38.60
2.9	8.2	R.	Nadir . . .	+0 37.95	+0 38.11
3.1	10.6	.	Nadir . . .	38.27	
3.3	17.0	R.	ε Ursæ Minoris	+0 35.86	
	19.1	.	Nadir . . .	36.84	+0 37.29
	20.2	.	κ Cephei . . .	36.12	
	20.8	.	μ Aquarii . .	37.08	
4.4	17.5	W.	Nadir . . .	. .	+0 39.74
5.4	18.4	E.	Nadir . . .	. .	+0 38.84
7.9	8.8	W.	Nadir . . .	+0 37.93	+0 37.49
8.1	11.5	.	Nadir . . .	37.05	
8.4	19.4	W.	Nadir . . .	+0 38.59	
	19.5	.	B. A. C. 6734	36.26	+0 37.93
	21.6	.	ε Pegasi . . .	36.89	
10.9	8.6	R.	Nadir . . .	. .	+0 37.38
11.4	19.5	R.	κ Aquilæ . . .	+0 37.77	
	21.7	.	Nadir . . .	38.08	+0 38.11
	23.2	.	Nadir . . .	37.62	
12.3	17.9	W.	Nadir . . .	+0 37.25	
	19.2	.	δ Draconis . .	35.28	+0 37.52
	19.5	.	δ Aquilæ . . .	37.60	
	20.7	.	Nadir . . .	37.90	
14.9	8.2	R.	Nadir . . .	. .	+0 37.76
15.4	19.3	R.	τ Draconis . .	+0 35.75	
	21.0	.	Nadir . . .	36.79	+0 36.17
	22.0	.	α Aquarii . .	33.92	
16.4	19.7	W.	α Aquilæ . . .	+0 36.33	+0 37.76
	20.8	.	Nadir . . .	38.32	
19.8	4.5	R.	α Tauri . . .	+0 36.40	+0 37.14
	5.6	.	Nadir . . .	37.00	
19.9	8.4	W.	Nadir . . .	. .	+0 36.60
1881.	h.			′ ″	′ ″
Aug. 20.4	19.0	W.	Nadir . . .	+0 37.42	+0 37.35
	21.5	.	Nadir . . .	37.28	
22.4	19.0	W.	Nadir . . .	+0 37.54	+0 38.00
	21.4	.	Nadir . . .	38.45	
22.9	8.3	R.	Nadir . . .	+0 37.30	+0 37.21
23.1	12.6	.	Nadir . . .	37.12	
23.4	19.3	R.	τ Draconis . .	+0 35.91	
	20.6	.	α Cygni . . .	36.03	
	21.6	.	Nadir . . .	35.81	+0 36.35
	23.8	.	Nadir . . .	35.86	
	0.0	.	α Andromedæ .	34.91	
24.4	20.1	W.	Nadir . . .	+0 37.02	+0 37.34
	20.6	.	α Cygni . . .	36.47	
25.4	19.7	E.	γ Aquilæ . . .	+0 36.56	
	19.8	.	ε Draconis . .	35.62	+0 37.36
	19.9	.	Nadir . . .	37.84	
26.3	18.0	S.	Nadir . . .	+0 36.75	
	22.1	.	B. A. C. 7749	34.70	+0 36.54
	22.4	.	Nadir . . .	36.43	
	22.6	.	B. A. C. 7923	36.21	
26.9	9.5	R.	Nadir . . .	+0 36.39	+0 35.82
27.1	. .	.	Nadir . . .	35.25	
27.3	17.5	R.	β Draconis . .	+0 35.16	
	19.6	.	Nadir . . .	36.02	+0 36.20
	. .	.	Nadir . . .	36.07	
	21.6	.	ε Pegasi . . .	35.51	
29.4	19.8	E.	Nadir . . .	+0 37.15	
	20.2	.	κ Cephei . . .	35.22	+0 36.64
	20.6	.	B. A. C. 7149	35.48	
30.4	20.3	S.	Nadir . . .	. .	+0 33.80
30.9	9.2	R.	Nadir . . .	. .	+0 33.18
Sept. 5.4	20.6	R.	α Cygni . . .	+0 32.72	+0 33.56
	21.8	.	Nadir . . .	33.22	
19.3	20.6	S.	B. A. C. 7149	+0 30.86	
	20.9	.	Nadir . . .	32.30	+0 32.09
	21.8	.	B. A. C. 7643	31.04	
20.4	20.8	R.	μ Aquarii . .	+0 30.30	
	22.4	.	Nadir . . .	30.78	+0 30.86
	23.2	.	ο Cephei . . .	29.44	

TABLE D.—*Zenith-Point Corrections, etc.*—Continued.

Mean Day.	Sidereal Hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881.	h.			′ ″	′ ″
Sept. 23.9	10.5	R.	Nadir . . .	+0 31.23	
	10.9	.	α Ursæ Majoris	29.52	+0 30.79
	14.2	.	α Bootis . . .	30.48	
	14.4	.	Nadir . . .	29.88	
24.4	20.5	R.	ε Delphini . .	+0 30.12	
	22.6	.	Nadir . . .	32.54	+0 31.99
	0.3	.	B. A. C. 79 .	31.26	
29.4	20.9	S.	Nadir . . .	+0 33.11	+0 32 96
	21.3	.	α Cephei . . .	31.62	
30.4	21.3	R.	α Cephei . . .	+0 32.17	
	22.0	.	α Aquarii . .	32.13	+0 33.39
	22.9	.	Nadir . . .	33.34	
	0.6	.	α Cassiopeæ .	32.68	
Oct. 1.3	21.3	S.	Nadir . . .	+0 33.25	
	21.8	.	B. A. C. 7643	32.28	+0 33.21
	22.6	.	B. A. C. 7923	32.03	
5.4	22.1	S.	Nadir . . .	. .	+0 31.04
6.4	20.6	R.	α Cygni . . .	+0 31.50	
	21.7	.	Nadir . . .	31.09	+0 31.71
	1.2	.	Nadir . . .	31.35	
7.4	22.4	W.	Nadir . . .	. .	+0 31.37
8.3	20.6	R.	Nadir . . .	+0 30.76	
	20.8	.	B. A. C. 7256	30.70	+0 31.38
	22.8	.	ι Cephei . . .	30.62	
9.9	10.9	R.	α Ursæ Majoris	+0 30.32	
	12.3	.	Nadir . . .	31.86	+0 31.33
10.1	14.2	.	α Bootis . . .	31.15	
	15.2	.	Nadir . . .	29.93	
10.4	21.1	R.	ζ Cygni . . .	+0 29.62	
	21.8	.	Nadir . . .	31.39	+0 31.93
	1.9	.	50 Cassiopeæ .	32.14	
	2.5	.	Nadir . . .	32.50	
10.9	12.1	W.	Nadir . . .	+0 32.15	+0 31.52
11.1	16.2	.	Nadir . . .	30.89	
11.4	21.8	W.	B. A. C. 7643	+0 30.54	
	22.0	.	α Aquarii . .	27.66	
	22.3	.	Nadir . . .	31.61	+0 30.68
	2.0	.	α Arietis . . .	30.10	
	2.2	.	Nadir . . .	30.55	
13.4	22.1	S.	B. A. C. 7749	+0 28.06	+0 30.02
		.	Nadir . . .	30.79	

Mean Day.	Sidereal Hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881.	h.			′ ″	′ ″
Oct. 13.9	11.8	R.	γ Ursæ Majoris	+0 31.00	
	12.4	.	Nadir . . .	30.91	+0 31.28
	13.7	.	η Ursæ Majoris	30.15	
	14.3	.	Nadir . . .	30.69	
15.1	15.9	W.	Nadir . . .	. .	+0 31.36
15.5	1.9	W.	50 Cassiopeæ .	+0 30.14	+0 31 88
	2.9	.	Nadir . . .	32.44	
15.8	9.4	W.	Nadir . . .	. .	+0 32.35
17.0	14.3	S.	Nadir . . .	. .	+0 31.01
17.3	20.5	S.	B. A. C. 7149	+0 30.90	+0 31.72
	22.6	.	Nadir . . .	31.66	
17.9	12.7	R.	Nadir . . .	+0 30.80	+0 30.54
	14.4	.	Nadir . . .	30.29	
18.9	12.9	W.	Nadir . . .	. .	+0 31.31
19.9	10.9	E.	α Ursæ Majoris	+0 30.62	+0 31.75
	12.3	.	Nadir . . .	31.69	
20.4	20.6	E.	α Cygni . . .	+0 30.36	
	22.4	.	Weisse (2)496	30.36	+0. 31.55
	23.1	.	Nadir . . .	31.86	
21.1	14.2	S.	Nadir . . .	. .	+0 28.87
21.3	21.7	S.	Nadir . . .	+0 30.23	
	22.1	.	B. A. C. 7749	29.42	+0 30.46
	22.6	.	B. A. C. 7923	29.67	
21.9	12.7	R.	Nadir . . .	+0 30.90	
	14.9	.	β Ursæ Minoris	26.70	+0 29.12
22.1	16.6	.	Nadir . . .	28.56	
22.3	21.3	R.	1 Pegasi . . .	+0 30.18	
	22.2	.	θ Aquarii . .	29.77	
	22.5	.	Nadir . . .	30.37	+0 31.00
	3.1	.	48 Cephei . . .	30.31	
	3.7	.	Nadir . . .	31.44	
25.0	15.2	S.	Nadir . . .	. .	+0 29.77
25.3	21.8	S.	B. A. C. 7643	+0 30.52	+0 31.90
	23.7	.	Nadir . . .	32.09	

TABLE D.—*Zenith-Point Corrections, etc.*—Continued.

Mean Day.	Sidereal Hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881.	h.			′ ″	′ ″
Oct. 26.3	20.6	R.	α Cygni . . .	+0 31.92	
	21.3	.	1 Pegasi . . .	31.65	
	21.8	.	Nadir . . .	32.92	+0 32.99
	23.8	.	Groom. 4163	31.61	
	3.2	.	Nadir . . .	33.47	
	3.8	.	ζ Persei . . .	32.24	
27.1	15.9	W.	Nadir . . .	. .	+0 29.31
27.5	3.1	W.	48 Cephei . . .	+0 32.26	
	3.6	.	Nadir . . .	33.52	+0 33.47
	5.8	.	α Orionis . .	33.21	
	5.9	.	Nadir . . .	32.84	
Nov. 3.9	13.8	W.	Nadir . . .	+0 34.31	+0 33.57
4.1	16.5	.	Nadir . . .	32.83	
4.4	0.3	W.	B. A. C. 79 .	+0 32.22	+0 33.65
	0.8	.	Nadir . . .	33.89	
5.4	23.8	E.	Groom. 4163	+0 31.34	
	0.3	.	Nadir . . .	32.72	+0 32.87
	0.5	.	B. A. C. 166	32.50	
8.4	0.4	W.	Nadir . . .	. .	+0 33.01
13.8	10.3	E.	Nadir . . .	. .	+0 40.59*
14.1	17.0	S.	Nadir . . .	. .	+0 38.99
14.4	21.8	S.	B. A. C. 7643	+0 37.44	
	22.6	.	B. A. C. 7923	38.34	+0 38.77
	23.2	.	Nadir . . .	38.46	
14.8	10.8	S.	Nadir . . .	. .	+0 39.64
14.9	15.1	R.	Nadir . . .	+0 38.92	
	17.9	.	γ Draconis . .	37.86	+0 38.66
	18.4	.	Nadir . . .	38.00	
15.3	22.8	R.	ι Cephei . . .	+0 37.28	
	0.4	.	Nadir . . .	37.96	+0 38.61
	3.1	.	ζ Arietis . . .	38.54	
15.8	10.9	R.	α Ursæ Majoris	+0 38.96	
	11.7	.	β Leonis . . .	38.37	+0 39.14
	12.7	.	Nadir . . .	38.02	
15.9	15.2	W.	Nadir . . .	+0 38.64	+0 38.37
16.1	17.5	.	Nadir . . .	38.10	
1881.	h.			′ ″	′ ″
Nov. 16.3	23.8	W.	Groom. 4163	+0 37.42	
	0.5	.	B. A. C. 166 .	37.70	
	0.9	.	Nadir . . .	38.68	+0 38.56
	2.7	.	Nadir . . .	39.01	
	3.1	.	48 Cephei . . .	36.76	
16.8	11.5	W.	Nadir . . .	. .	+0 39.16
16.9	14.3	E.	Nadir . . .	. .	+0 38.30
22.4	2.3	S.	Nadir . . .	. .	+0 37.85
24.4	2.6	W.	γ Ceti	+0 37.42	
	3.1	.	B. A. C. 1287	38.12	+0 38.73
	3.6	.	Nadir . . .	38.58	
24.9	14.5	E.	Nadir . . .	+0 38.09	+0 38.79
25.1	19.4	.	Nadir . . .	39.49	
25.4	0.4	E.	B. A. C. 126 .	+0 39.63	
	3.4	.	Nadir . . .	40.52	+0 40.55
	4.4	.	ε Tauri . . .	39.44	
27.3	22.8	R.	ι Cephei . . .	+0 37.10	
	23.2	.	Nadir . . .	37.45	+0 37.81
	23.5	.	B. A. C. 8206	36.82	
27.5	4.4	R.	ε Tauri . . .	+0 38.29	+0 39.11
	4.6	.	Nadir . . .	39.06	
27.9	15.7	W.	Nadir . . .	+0 37.43	+0 37.36
	17.7	.	Nadir . . .	37.29	
28.3	23.2	W.	ο Cephei . . .	+0 38.23	
	0.1	.	γ Pegasi . . .	39.39	+0 39.72
	0.3	.	B. A. C. 79 .	38.62	
	0.7	.	Nadir . . .	39.38	
29.3	0.4	E.	Nadir . . .	+0 40.85	
	0.5	.	B. A. C. 166 .	40.02	+0 40.76
	0.8	.	B. A. C. 253 .	39.36	
Dec. 1.3	0.6	R.	α Cassiopeæ .	+0 39.04	
	2.6	.	Nadir . . .	39.64	+0 40.06
	5.1	.	β Orionis . . .	39.41	
	5.8	.	Nadir . . .	40.08	
1.9	15.9	W.	Nadir . . .	+0 40.12	+0 39.86
2.1	19.5	.	Nadir . . .	39.61	

*Readjusted microscopes Nov. 10.0.

TABLE D.—*Zenith Point Corrections, etc.*—Continued.

Mean Day.	Sidereal Hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881.	h.			′ ″	′ ″
Dec. 2.5	3.3	W.	α Persei . . .	+0 40.77	
	3.8	.	ζ Persei . . .	40.96	+0 41.42
	3.9	.	Nadir . . .	40.47	
5.3	0.4	R.	Nadir . . .	+0 39.73	
	1.9	.	50 Cassiopeæ . .	39.47	
	5.8	.	α Orionis . . .	39.30	+0 40.28
	6.1	.	22 Camelop. . .	39.37	
	6.6	.	Nadir . . .	40.27	
7.4	2.5	E.	Nadir . . .	. .	+0 39.69
8.9	16.4	R.	Nadir . . .	+0 38.87	+0 38.84
9.1	19.4	R.	Nadir . . .	38.80	
9.4	3.9	R.	Nadir . . .	. .	+0 39.46
10.4	2.7	W.	B. A. C. 872 .	+0 38.65	
	3.4	.	Nadir . . .	40.21	+0 39.86
	5.7	.	B. A. C. 1849	38.02	
	6.0	.	Nadir . . .	40.49	
15.4	2.7	E.	B. A. C. 872 .	+0 44.04	
	3.2	.	Nadir . . .	44.40	+0 44.77
	4.1	.	B. A. C. 1287	43.81	
15.8	13.6	E.	Nadir . . .	. .	+0 46.84
15.9	16.2	S.	Nadir . . .	. .	+0 42.84
16.8	12.0	S.	Nadir . . .	. .	+0 44.41
1881.	h.			′ ″	′ ″
Dec. 16.9	17.3	R.	Nadir . . .	+0 44.52	+0 43.97
17.1	20.0	.	Nadir . . .	43.42	
17.3	0.3	R.	B. A. C. 79 .	+0 43.66	
	4.5	.	Nadir . . .	44.29	+0 44.89
	7.2	.	δ Geminorum .	44.66	
17.9	13.7	W.	η Ursæ Majoris	+0 43.86	+0 44.76
	14.4	.	Nadir . . .	44.47	
18.9	16.2	E.	Nadir . . .	. .	+0 43.95
20.4	4.5	S.	Nadir . . .	. .	+0 43.91
23.5	5.6	E.	Nadir . . .	. .	+0 45.54
24.0	18.9	S.	Nadir . . .	. .	+0 43.85
27.3	0.8	E.	B. A. C. 253 .	+0 43.64	+0 45.28
	2.0	.	Nadir . . .	45.72	
28.3	2.9	S.	Nadir . . .	. .	+0 46.03
30.9	16.9	E.	Nadir . . .	. .	+0 45.53
31.3	2.5	E.	Nadir . . .	. .	+0 47.58

THE XXVI-INCH EQUATORIAL.

During the year 1881 the observations with this instrument were made by Professors A. HALL and E. FRISBY. The obervations extend from page 98 to 107. The first columns give the date, the name of the object observed, and the angle of position estimated by the observer. The columns for Washington time give, for a double star the sidereal time when the angle of position was observed; but in the case of a satellite they give the mean time both for the distance and the angle of position. These times are given to a hundredth part of an hour. Achromatic eye-pieces were used, and their magnifying powers are as follows:

3 A, power, 383.
5 A, " 606.
6 A, " 888.

The numbers in the column headed "Image" are estimated on a scale of 5, and refer only to the quality of the image. 1 denotes a very poor image, and 5 an excellent one. The observers are distinguished by the letters *H* and *F*. A few observations of the companion of Sirius were made by Prof. E. S. Holden, whose observations are denoted by *Hn*.

The observations have been reduced by assuming the value of a revolution of the screw of the micrometer to be

$$R = 9''.9479:$$

and no corrections for temperature have been applied. The early determinations of *R*, and the more recent ones, show that this correction is practically insensible for nearly all the distances observed.

During this year some observations for the annual parallax of α Lyræ and 61 Cygni were finished. These observations and their discussions have been published in Appendix I to the volume for 1879.

The results of the observations of satellites and double stars will be found on pages 108 to 114. In the case of double stars, double distances were always measured. For the satellites, Hyperion and Japetus of Saturn, and those of Mars, single distances were measured.

TABLE C.—*Adopted Corrections and Rates of the Kessels Sidereal Clock, etc.*—Continued.

Mean day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.	Mean day.	Observer.	Sidereal Hour.	Clock Corrections.	Hourly Rate.
1881.		h.	s.	s.	1881.		h.	s.	s.
Nov. 28.3	·	23.50	— 0.485	+ 0.048	Dec. 15.9	S.	15.32	+ 3.965	+ 0.008
28.4	·	0.65	— 0.430		16.1	·	18.77	+ 3.993	
29.3	E.	23.67	— 0.217		16.7	·	11.70	+ 4.740	+ 0.003
					16.8	·	13.83	+ 4.747	
Dec. 1.3	R.	0.20	— 0.062	— 0.026	16.9	R.	15.68	+ 4.675	+ 0.036
1.5	·	4.37	— 0.170		17.1	·	19.75	+ 4.820	
1.9	W.	14.85	— 0.605	+ 0.050	17.3	·	0.90	+ 5.117	+ 0.047
1.9	·	15.55	— 0.570	+ 0.008	17.5	·	5.60	+ 5.340	
2.4	·	3.37	— 0.477		18.9	E.	15.60	+ 6.234	
5.3	R.	0.72	+ 0.098	+ 0.014	20.4	S.	2.85	+ 7.380	— 0.047
5.5	·	5.33	+ 0.162		20.4	·	3.77	+ 7.337	
7.3	E.	1.80	+ 0.006	+ 0.015	23.4	E.	3.80	+ 7.340	+ 0.012
7.4	·	3.75	+ 0.035		23.5	·	6.03	+ 7.367	
8.9	R.	15.12	+ 0.520	+ 0.014	23.9	S.	16.40	+ 7.512	+ 0.035
9.1	·	18.78	+ 0.570		24.1	·	19.75	+ 7.630	— 0.013
9.4	·	2.50	+ 0.658	+ 0.052	24.1	·	21.27	+ 7.610	
9.4	·	3.30	+ 0.700		27.2	E.	0.75	+ 8.510	+ 0.081
10.4	W.	2.16	+ 0.998	+ 0.006	27.3	·	1.55	+ 8.575	
10.5	·	4.98	+ 1.015		28.3	S.	1.98	+ 8.478	
15.3	E.	1.52	+ 3.566	+ 0.051	30.9	E.	16.13	+ 7.830	+ 0.035
15.4	·	3.80	+ 3.683		31.1	·	20.67	+ 7.987	
15.8	·	13.20	+ 3.735	+ 0.125	31.2	·	1.83	+ 8.220	+ 0.036
15.8	·	13.80	+ 3.810		31.3	·	3.82	+ 8.292	

TABLE D.—*Zenith-Point Corrections derived from observations of the Nadir and Reflected Stars in* 1881.

Mean Day.	Sidereal Hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881,	h.			′ ″	′ ″
Jan. 15.1	21.6	E.	Nadir . . .	. .	+0 34.87
17.3	4.0	E.	B. A. C. 1254	+0 33.18	
	5.6	.	Nadir . . .	33.68	+0 34.24
	6.5	.	B. A. C. 2129	34.29	
18.1	22.5	R.	Nadir . . .	. .	+0 32.45
22.4	4.9	S.	B. A. C. 1536	+0 32.72	
	5.9	.	B. A. C. 1939	33.78	+0 34.13
	6.8	.	Nadir . . .	34.31	
23.7	14.2	R.	α Bootis . . .	+0 33.08	
	14.3	.	θ Bootis . . .	34.79	+0 34.83
	16.1	.	Nadir . . .	35.05	
23.9	20.1	W.	Nadir . . .	. .	+0 34.52
24.5	7.8	W.	Nadir . . .	. .	+0 34.11
25.9	20.1	S.	Nadir . . .	. .	+0 34.11
27.0	21.2	R.	Nadir . . .	+0 30.36	
27.1	23.3	.	Nadir . . .	30.83	+0 30.60
27.4	5.3	R.	β Tauri . . .	+0 32.60	
	8.1	.	Nadir . . .	33.37	
	9.6	.	B. A. C. 3303	33.04	+0 33.16
	10.1	.	32 Ursæ Majoris	30.86	
	10.4	.	9 Draconis . .	32.77	
27.9	20.0	W.	Nadir . . .	. .	+0 32.67
28.2	0.2	W.	Nadir . . .	+0 31.66	
	4.7	.	α Camelop. . .	31.95	
	5.8	.	α Orionis . .	33.64	+0 33.31
	8.7	.	ε Hydræ . . .	32.74	
	8.9	.	ι Ursæ Majoris	32.63	
	10.0	.	Nadir . . .	34.11	
Feb. 3.9	20.6	R.	Nadir. . . .	+0 31.28	
4.1	23.8	.	Nadir . . .	31.45	+0 31.36
4.9	20.2	W.	Nadir . . .	+0 30.68	
5.2	2.0	.	α Arietis . . .	30.93	+0 30.96
5.5	8.7	W.	ε Hydræ . . .	32.08	+0 32.39
6.1	0.6	E.	α Cassiopeæ .	+0 28.19	
	2.0	.	α Arietis . . .	31.40	+0 30.91
	2.8	.	Nadir . . .	+0 31.56	
1881.	h.			′ ″	′ ″
Feb. 11.9	21.5	R.	Nadir . . .	+0 35.38	
12.1	0.9	.	Nadir . . .	36.46	+0 35.92
13.9	20.5	E.	Nadir . . .	+0 37.20	
14.1	1.0	.	Nadir . . .	36.14	+0 36.67
15.9	20.8	R.	Nadir . . .	+0 38.12	
16.2	1.8	.	Nadir . . .	37.10	+0 37.61
16.3	5.5	R.	ε Orionis . . .	+0 38.80	
	5.7	.	B. A. C. 1849	35.68	
	9.3	.	Nadir . . .	38.02	+0 38.28
	12.6	.	B. A. C. 4271	37.86	
	12.8	.	32ᵈ Camelop. . .	37.90	
16.9	21.5	W.	Nadir . . .	. .	+0 34.53
17.3	5.5	W.	ε Orionis . .	+0 36.49	
	9.8	.	Nadir . . .	38.23	+0 37.52
19.3	5.7	S.	B. A. C. 1849	+0 35.21	
	6.0	.	B. A. C. 1939	37.02	+0 37.09
	8.9	.	Nadir . . .	37.47	
21.6	9.7	W.	B. A. C. 3346	+0 36.07	
	10.0	.	α Leonis . . .	37.81	+0 37.57
	11.5	.	Nadir . . .	37.26	
23.9	21.8	R.	Nadir . . .	+0 35.58	
24.1	0.9	.	Nadir . . .	35.79	+0 35.68
24.9	22.3	W.	Nadir . . .	. .	+0 34.58
25.9	21.7	E.	Nadir . . .	. .	+0 36.58
Mar. 1.3	7.5	W.	Nadir . . .	. .	+0 37.61
2.4	8.0	E.	3 Ursæ Majoris	+0 34.34	
	8.4	.	η Cancri . . .	36.86	+0 36.38
	9.0	.	Nadir . . .	36.36	
5.4	8.4	W.	Nadir . . .	. .	+0 36.07
6.2	4.1	E.	Nadir . . .	. .	+0 35.49
7.1	0.8	S.	Nadir . . .	. .	+0 33.71
7.3	5.5	S.	B. A. C. 1767	+0 34.90	
	5.7	.	B. A. C. 1849	32.34	+0 34.63
	9.5	.	Nadir . . .	35.08	

TABLE D.—*Zenith-Point Corrections, etc.*—Continued.

Mean Day.	Sidereal Hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881.	h.			′ ″	′ ″
Mar. 7.9	22.2	R.	Nadir . . .	. .	+0 35.60
10.4	9.0	E.	Nadir . . .	+0 37.58	
	9.6	.	B. A. C. 3303	35.88	+0 37.22
	10.4	.	9 Draconis . .	36.64	
11.1	1.0	S.	Nadir . . .	. .	+0 35.84
11.4	10.9	S.	Nadir . . .	. .	+0 37.04
13.5	10.4	W.	9 Draconis . .	+0 35.16	+0 36.42
14.4	8.4	R.	Nadir . . .	. .	+0 36.80
15.3	7.5	E.	Nadir . . .	. . .	+0 35.97
21.5	11.4	W.	Nadir . . .	. .	+0 34.38
24.1	1.6	R.	Nadir . . .	. .	+0 34.38
24.4	9.0	R.	σ^2 Ursæ Majoris	+0 33.96	
	9.8	.	Nadir . . .	35.14	+0 35.87
	11.7	.	B. A. C. 3981	36.00	
25.1	2.4	W.	Nadir . . .	. .	+0 35.74
25.4	8.9	W.	ι Ursæ Majoris	+0 33.87	
	9.7	.	Nadir . . .	35.83	+0 35.48
27.9	23.5	R.	Nadir . . .	+0 35.90	
28.1	2.3	.	Nadir . . .	35.30	+0.35.60
28.3	7.2	R.	δ Geminorum .	(+0 32.16)	
	7.9	.	Nadir . . .	37.35	+0 37.35
29.4	9.3	W.	1 Draconis . .	+0 34.68	
	11.3	.	Nadir . . .	36.37	+0 36.26
	12.0	.	Virginis . .	36.15	
Apr. 2.4	10.3	W.	Nadir . . .	. .	+0 36.49
4.4	12.6	S.	Nadir . . .	. .	+0 36.27
5.3	7.6	R.	α Canis Minoris	+0 36.06	
	9.0	.	σ^2 Ursæ Majoris	33.44	
	9.7	.	Nadir . . .	36.22	+0 35.96
	10.9	.	α Ursæ Majoris	34.63	
	12.0	.	o Virginis . .	36.29	
1881.	h.			′ ″	′ ″
Apr. 10.4	11.7	W.	B. A. C. 3981	+0 34.46	
	12.1	.	4 Draconis . .	37.23	+0 36.74
	12.7	.	Nadir . . .	36.02	
10.9	23.6	E.	Nadir . . .	. .	+0 36.72
11.3	9.6	E.	Nadir . . .	+0.35.73	
	9.9	.	B. A. C. 3415	35.83	+0 35.47
	10.2	.	32 Ursæ Majoris	33.28	
15.1	3.5	E.	Nadir . . .	. .	+0 36.35
16.3	8.4	S.	Nadir . . .	+0 35.46	
	12.6	.	B. A. C. 4271	34.98	+0 35.96
	12.8	.	B. A. C. 4335	35.88	
22.4	10.6	W.	B. A. C. 3652	+0 33.72	
	11.7	.	β Leonis . . .	35.80	+0 35.81
	12.6	.	Nadir . . .	36.34	
22.8	22.5	W.	Nadir . . .	. .	+0 38.42
22.9	1.0	E.	Nadir . . .	+0 35.46	
23.1	4.3	.	Nadir . . .	36.66	+0.36.06
23.3	10.9	E.	α Ursæ Majoris	+0 35.48	
	11.1	.	δ Leonis . . .	36.60	+0 36.82
23.8	22.5	E.	Nadir . . .	. .	+0 36.22
25.9	2.0	W.	Nadir . . .	. .	+0 36.86
27.9	1.8	S.	Nadir . . .	. .	+0 37.99
28.3	8.8	S.	Nadir . . .	. .	+0 37.65
29.4	11.7	R.	β Leonis . . .	+0 38.28	
	12.9	.	Nadir . . .	38.17	+0 38.68
	14.9	.	β Ursæ Minoris	38.01	
29.9	2.3	W.	Nadir . . .	+0 39.29	
30.1	5.7	.	Nadir . . .	35.71	+0 37.50
30.4	12.3	W.	B. A. C. 4195	+0 36.02	
	14.4	.	θ Bootis . . .	34.92	+0 36.34
	14.8	.	Nadir . . .	36.51	
May 1.1	6.0	E.	Nadir . . .	. .	+0 34.65
7.3	10.9	R.	α Ursæ Majoris	+0 32.94	
	12.7	.	Nadir . . .	34.22	+0 34.21

TABLE D.—*Zenith-Point Corrections, etc.*—Continued.

Mean Day.	Sidereal Hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881.	h.			′ ″	′ ″
May 8.3	11.5	W.	υ Leonis . . .	+0 33.42	
	11.8	.	γ Ursæ Majoris	33.32	+0 33.58
	13.8	.	η Bootis . . .	32.76	
	14.0	.	Nadir . . .	32.95	
8.9	2.2	E.	Nadir . . .	. .	+0 33.61
9.4	12.3	E.	Nadir . . .	. .	+0 33.20
9.9	2.0	S.	Nadir . . .	. .	+0 33.72
10.3	9.7	S.	Nadir . . .	+0 34.60	
	11.1	.	δ Leonis . . .	33.70	+0 34.49
	12.2	.	B. A. C. 4123	33.62	
11.9	2.4	W.	Nadir . . .	. .	+0 36.05
12.5	12.5	W.	κ Draconis . .	+0 33.36	+0 34.64
	15.5	.	Nadir . . .	34.65	
16.4	10.9	W.	α Ursæ Majoris	+0 43.46	
	12.3	.	B. A. C. 4195	44.10	+0 45.37
	12.6	.	B. A. C. 4271	45.23	
	12.7	.	Nadir . . .	45.75	
20.3	12.1	W.	4 Draconis . .	+0 40.97	
	12.5	.	κ Draconis . .	42.02	
	13.0	.	Nadir . . .	42.60	+0 42.64
	13.8	.	η Bootis . . .	41.32	
	16.9	.	B. A. C. 5731	42.18	
21.4	14.0	E.	Nadir . . .	. .	+0 42.94
24.4	14.4	W.	ϑ Bootis . . .	+0 42.40	
	17.3	.	B. A. C. 5893	43.52	+0 44.06
	17.5	.	β Draconis . .	42.36	
	18.3	.	Nadir . . .	44.73	
24.9	3.4	E.	Nadir . . .	. .	+0 42.20
25.3	12.9	E.	B. A. C. 4367	+0 42.86	
	13.7	.	η Ursæ Majoris	41.50	+0 43.34
	14.3	.	Nadir . . .	43.59	
27.0	3.8	R.	Nadir . . .	+0 42.39	+0 41.98
	8.0	.	Nadir . . .	41.57	
27.4	13.7	R.	η Ursæ Majoris	+0 42.74	
	15.7	.	Nadir . . .	43.67	+0 43.65
	17.2	.	α^1 Herculis . .	42.48	
27.9	3.5	W.	Nadir . . .	+0 42.93	+0 42.48
	6.0	.	Nadir . . .	42.04	
1881.	h.			′ ″	′ ″
May 28.4	12.5	W.	κ Draconis . .	+0 42.46	
	13.7	.	Nadir . . .	44.11	+0 43.67
	14.4	.	ρ Bootis . . .	42.39	
30.9	3.9	R.	Nadir . . .	+0 43.08	+0 42 88
31.1	7.3	.	Nadir . . .	42.68	
June 8.4	14.9	R.	β Ursæ Minoris	+0 41.35	+0 42.35
	15.7	.	Nadir . . .	42.16	
10.9	4.1	S.	Nadir . . .	. .	+0 42.21
11.5	17.9	W.	γ Draconis . .	+0 40.43	
	19.0	.	ζ Aquilæ . . .	41.62	+0 42.18
	19.6	.	Nadir . . .	42.43	
12.5	16.3	R.	Nadir . . .	+0 42.01	+0 42.47
	16.9	.	κ Ophiuchi . .	42.06	
13.4	14.0	W.	α Draconis . .	+0 41.52	+0 43.11
	15.2	.	Nadir . . .	43.51	
15.9	4.7	R.	Nadir . . .	. .	+0 41.64
17.9	4.0	E.	Nadir . . .	. .	+0 42.64
18.5	17.7	E.	Nadir . . .	. .	+0 43.40
19.8	23.8	S.	Nadir . . .	. .	+0 42.40
19.9	5.4	R.	Nadir . . .	+0 42.73	+0 42.98
20.1	8.3	.	Nadir . . .	43.23	
20.9	5.4	W.	Nadir . . .	+0 42.64	+0 42.56
21.1	8.1	.	Nadir . . .	42.48	
21.3	14.3	W.	θ Bootis . . .	0+ 42.22	+0 43.19
	15.8	.	Nadir . . .	42.97	
22.4	17.2	E.	Nadir . . .	+0 43.58	+0 43.52
	17.5	.	β Draconis . .	42.28	
23.9	5.5	R.	Nadir . . .	. .	+0 40.31
24.4	16.3	R.	τ Herculis . .	+0 40.60	
	18.7	.	Nadir . . .	42.00	+0 41.71
	20.2	.	κ Cephei . . .	40.38	
	20.8	.	μ Aquarii . . .	40.61	
26.5	17.5	E.	Nadir . . .	. .	+0 41.54

TABLE D.—*Zenith-Point Corrections, etc.*—Continued.

Mean Day.	Sidereal hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881.	h.			′ ″	′ ″
June 27.5	19.0	S.	Nadir . . .	. .	+0 42.54
28.4	17.0	R.	ε Ursæ Minoris	+0 40.98	
	18.9	.	B. A. C. 6491	40.82	
	19.5	.	κ Aquilæ . . .	39.80	+0 41.47
	19.7	.	Nadir . . .	41.84	
	20.0	.	B. A. C. 6905	39.78	
29.6	20.3	W.	Nadir . . .	. .	+0 41.47
29.9	5.4	E.	Nadir . . .	. .	+0 41.03
July 1.4	15.4	S.	B. A. C. 5097	+0 38.11	
	16.6	.	B. A. C. 5604	39.53	+0 40.24
	17.7	.	Nadir . . .	41.02	
1.9	5.8	R.	Nadir . . .	+0 40.83	+0 40.20
2.1	10.4	R.	Nadir . . .	39.56	
2.5	19.2	R.	δ Draconis . .	+0 39.70	
	19.5	.	κ Aquilæ . . .	40.30	+0 41 02
	20.9	.	Nadir . . .	41.00	
3.3	13.0	W.	Nadir . . .	+0 39.76	
	17.2	.	α¹ Herculis . .	39.80	+0 40.09
	17.4	.	Nadir . . .	40.90	
	17.6	.	ω Draconis . .	37.84	
4.9	8.0	S.	Nadir . . .	. .	+0 38.43
5.3	15.0	S.	B. A. C. 4980	+0 36.64	+0 38.48
	15.3	.	Nadir . . .	39.14	
5.9	6.1	R.	Nadir . . .	. .	+0 38.76
6.6	20.6	R.	α Cygni . . .	+0 39.44	
	20.8	.	μ Aquarii . . .	38.72	+0 39.68
	21.3	.	Nadir . . .	38.82	
7.1	8.8	W.	Nadir . . .	. .	+0 39.37
7.9	5.0	E.	Nadir . . .	+0 39.77	+0 39.57
8.1	9.5	.	Nadir . . .	39.37	
8.5	18.3	E.	Nadir . . .	. .	+0 39.31
9.5	16.9	S.	B. A. C. 5731	+0 38.54	
	17.6	.	ω Draconis . .	37.04	+0 39 03
	19.2	.	Nadir . . .	39.44	
10.4	16.4	R.	η Draconis . .	+0 37.32	+0 38.34
	19.5	.	Nadir . . .	38.18	
1881.	h.			′ ″	′ ″
July 10.9	6.3	W.	Nadir . . .	. .	+0 38.20
11.6	22.1	W.	Nadir . . .	. .	+0 38.24
13.9	6.9	R.	Nadir . . .	+0 38.60	+0 38.56
	9.9	.	Nadir . . .	38.51	
14.4	16.5	R.	A Draconis . .	+0 37.20	
	18.7	.	Nadir . . .	38.32	+0 38.35
	21.3	.	α Cephei . . .	37.16	
15.6	22.5	W.	226 Cephei . . .	+0 37.41	+0 38.80
	22.8	.	Nadir . . .	39.01	
15.9	4.7	E.	Nadir . . .	+0 39.18	+0 38.48
16.1	9.9	.	Nadir . . .	37.78	
16.5	21.3	E.	Nadir . . .	. .	+0 38.72
17.9	5.8	R.	α Orionis . . .	+0 37.00	
	7.4	.	Nadir . . .	37.73	+0 37.69
	10.4	.	Nadir . . .	37.48	
18.5	19.2	R.	δ Draconis . .	+0 36.08	
	20.4	.	Nadir . . .	36.26	
	22.3	.	π Aquarii . . .	35.82	+0 36.65
	2.3	.	Nadir . . .	36.37	
18.9	7.0	W.	Nadir . . .	. .	+0 37.19
19.5	20.7	W.	B. A. C. 7220	+0 35.32	+0 37.44
	21.4	.	Nadir . . .	38.38	
22.7	0.3	R.	B. A. C. 79 .	+0 34.75	
	1.8	.	β Arietis . . .	35.56	+0 36.02
	2.3	.	Nadir . . .	35.70	
22.9	7.9	W.	Nadir . . .	. .	+0 36.65
23.6	22.9	W.	B. A. C. 8032	+0 33.97	+0 35.12
	2.2	.	Nadir . . .	35.40	
24.7	0.4	E.	Nadir . . .	. .	+0 35.68
25.9	7.5	R.	Nadir . . .	. .	+0 35.90
27.7	2.0	W.	α Arietis . . .	+0 35.50	+0 36.78
	3.0	.	Nadir . . .	37.18	
27.9	6.3	E.	Nadir . . .	. .	+0 35.66

TABLE D.—*Zenith-Point Corrections, etc.*—Continued.

Mean Day.	Sidereal Hour.	Observer.	Object.	Observed Zenith-Point Correction.	Adopted Zenith-Point Correction.
1881.	h.			′ ″	′ ″
July 28.6	0.3	E.	Nadir . . .	. .	+0 39.36
31.2	14.4	W.	Nadir . . .	. .	+0 37.01
Aug. 2.4	18.3	E.	Nadir . . .	. .	+0 38.60
2.9	8.2	R.	Nadir . . .	+0 37.95	+0 38.11
3.1	10.6	.	Nadir . . .	38.27	
3.3	17.0	R.	ε Ursæ Minoris	+0 35.86	+0 37.29
	19.1	.	Nadir . . .	36.84	
	20.2	.	κ Cephei . . .	36.12	
	20.8	.	μ Aquarii . .	37.08	
4.4	17.5	W.	Nadir . . .	. .	+0 39.74
5.4	18.4	E.	Nadir . . .	. .	+0 38.84
7.9	8.8	W.	Nadir . . .	+0 37.93	+0 37.49
8.1	11.5	.	Nadir . . .	37.05	
8.4	19.4	W.	Nadir . . .	+0 38.59	+0 37.93
	19.5	.	B. A. C. 6734	36.26	
	21.6	.	ε Pegasi . . .	36.89	
10.9	8.6	R.	Nadir . . .	. .	+0 37.38
11.4	19.5	R.	κ Aquilæ . . .	+0 37.77	+0 38.11
	21.7	.	Nadir . . .	38.08	
	23.2	.	Nadir . . .	37.62	
12.3	17.9	W.	Nadir . . .	+0 37.25	+0 37.52
	19.2	.	δ Draconis . .	35.28	
	19.5	.	δ Aquilæ . . .	37.60	
	20.7	.	Nadir . . .	37.90	
14.9	8.2	R.	Nadir . . .	. .	+0 37.76
15.4	19.3	R.	τ Draconis . .	+0 35.75	+0 36.17
	21.0	.	Nadir . . .	36.79	
	22.0	.	α Aquarii . .	33.92	
16.4	19.7	W.	α Aquilæ . . .	+0 36.33	+0 37.76
	20.8	.	Nadir . . .	38.32	
19.8	4.5	R.	α Tauri . . .	+0 36.40	+0 37.14
	5.6	.	Nadir . . .	37.00	
19.9	8.4	W.	Nadir . . .	. .	+0 36.60
1881.	h.			′ ″	′ ″
Aug. 20.4	19.0	W.	Nadir . . .	+0 37.42	+0 37.35
	21.5	.	Nadir . . .	37.28	
22.4	19.0	W.	Nadir . . .	+0 37.54	+0 38.00
	21.4	.	Nadir . . .	38.45	
22.9	8.3	R.	Nadir . . .	+0 37.30	+0 37.21
23.1	12.6	.	Nadir . . .	37.12	
23.4	19.3	R.	τ Draconis . .	+0 35.91	+0 36.35
	20.6	.	α Cygni . . .	36.03	
	21.6	.	Nadir . . .	35.81	
	23.8	.	Nadir . . .	35.86	
	0.0	.	α Andromedæ .	34.91	
24.4	20.1	W.	Nadir . . .	+0 37.02	+0 37.34
	20.6	.	α Cygni . . .	36.47	
25.4	19.7	E.	γ Aquilæ . . .	+0 36.56	+0 37.36
	19.8	.	ε Draconis . .	35.62	
	19.9	.	Nadir . . .	37.84	
26.3	18.0	S.	Nadir . . .	+0 36.75	+0 36.54
	22.1	.	B. A. C. 7749	34.70	
	22.4	.	Nadir . . .	36.43	
	22.6	.	B. A. C. 7923	36.21	
26.9	9.5	R.	Nadir . . .	+0 36.39	+0 35.82
27.1	. .	.	Nadir . . .	35.25	
27.3	17.5	R.	β Draconis . .	+0 35.16	+0 36.20
	19.6	.	Nadir . . .	36.02	
	. .	.	Nadir . . .	36.07	
	21.6	.	ε Pegasi . . .	35.51	
29.4	19.8	E.	Nadir . . .	+0 37.15	+0 36.64
	20.2	.	κ Cephei . . .	35.22	
	20.6	.	B. A. C. 7149	35.48	
30.4	20.3	S.	Nadir . . .	. .	+0 33.80
30.9	9.2	R.	Nadir . . .	. .	+0 33.18
Sept. 5.4	20.6	R.	α Cygni . . .	+0 32.72	+0 33.56
	21.8	.	Nadir . . .	33.22	
19.3	20.6	S.	B. A. C. 7149	+0 30.86	+0 32.09
	20.9	.	Nadir . . .	32.30	
	21.8	.	B. A. C. 7643	31.04	
20.4	20.8	R.	μ Aquarii . .	+0 30.30	+0 30.86
	22.4	.	Nadir . . .	30.78	
	23.2	.	ο Cephei . . .	29.44	

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
January 26, R.	1	α Cygni		9	37 34.27	+ 0.23	**— 12.87**	353 58 4.08	+ 4 16.11	— 6.5	20 37 21.63	. .	45 8 34.9	— 1.3
27	2	Sun I, S.		2	40 39.88	+ 0.71	— 12.88	57 19 57.98	+ 5 28.71	+ 1 37.0	20 40 27.71	+68.71	108 33 24.9	. .
	3	Sun II, N.		9	42 57.30	+ 0.71	— 12.88	56 48 2.10	+ 4 53.42	+ 1 35.1	20 42 45.13	—68.71	108 0 51.8	. .
	4	ι Cephei		9	45 38.42	— 0.20	— 12.92	333 16 0.02	+ 3 23.22	— 31.1	22 45 25.30	. .	24 25 13.3	— 0.8
	5	α Pegasi		4	59 2.83	+ 0.48	**— 13.00**	24 15 57.68	+ 3 11.47	+ 28.0	22 58 50.39	. .	75 25 58.4	+ 0.2
	6	Venus I, C.		9	35 39.01	+ 0.60	— 12.93	41 49 54.12	+ 4 57.25	+ 55.5	23 35 26.68	+ 0.64	93 2 8.1	. .
	7	α Andromedæ		8	2 27.32	+ 0.38	**— 12.86**	10 23 56.42	+ 3 18.04	+ 11.4	0 2 14.76	. .	61 33 47.1	— 0.6
	8	γ Tauri		9	13 16.01	+ 0.52	**— 13.05**	23 27 57.58	+ 4 52.95	+ 27.1	4 13 3.53	. .	74 39 38.8	+ 2.2
	9	ε Tauri		9	21 54.82	+ 0.50	**— 12.96**	19 53 55.22	+ 4 23.90	+ 22.6	4 21 42.32	. .	71 5 2.9	+ 1.0
	10	α Camelop.		4	42 31.46	— 0.12	— 12.98	332 42 . .	. . .	. .	4 42 18.36	. .	23 51 . .	. .
	11	11 Orionis		9	58 0.98	+ 0.52	**— 12.96**	23 33 56.32	+ 5 1.73	+ 27.3	4 57 48.52	. .	74 45 46.5	+ 0.3
	12	β Tauri (R)			. . . .	. .	. .	169 33 52.15	+ 3 3.32	— 11.5	. . . .	. .	61 29 37.2	— 0.6
	13	β Tauri			. . . .	. .	. .	10 17 58.50	+ 5 7.08	+ 11.5	5 19 . .	. .	61 29 38.3	+ 0.5
	14	B. A. C. 1756		9	29 5.27	+ 0.90	— 12.96	77 19 54.80	+ 5 9.99	+ 4 34.7	5 28 53.21	— 2.11	128 36 0.7	—12.1
	15	B. A. C. 1814		9	38 13.59	+ 0.86	— 12.95	73 29 53.92	+ 4 4.01	+ 3 29.7	5 38 1.50	— 2.16	124 43 48.8	—11.6
	16	B. A. C. 1847		9	42 47.14	+ 0.88	— 12.95	75 1 56.55	+ 4 33.74	+ 3 52.1	5 42 35.07	— 2.18	126 16 43.6	—11.8
	17	B. A. C. 1889		9	48 44.16	+ 0.89	— 12.95	76 26 0.35	+ 3 1.66	+ 4 16.0	5 48 32.10	— 2.21	127 39 39.2	—12.0
	18	Lalande 11344	8.9	9	54 22.77	+ 0.44	— 12.94	10 37 57.40	+ 3 15.19	+ 11.8	5 54 10.27	— 2.88	61 47 45.6	+ 0.6
	19	Lalande 11380	8.7	9	55 19.68	+ 0.44	— 12.94	10 37 57.40	+ 3 17.51	+ 11.8	5 55 7.18	— 2.88	61 47 47.9	+ 0.6
	20	Piazzi VI, 6		9	3 14.80	+ 0.94	— 12.94	80 59 53.95	+ 4 37.54	+ 6 23.3	6 3 2.80	— 2.29	132 17 16.0	—12.4
	21	δ Ursæ Min., S. P.		5	10 22.96	+ 5.99	— 12.93	305 27 57.78	+ 3 33.32	— 1 27.6	18 10 16.02	. .	356 36 24.7	+ 0.5
	22	VI, 2[1]	9.2	9	19 53.79	+ 0.80	— 12.93	66 43 57.12	+ 5 10.58	+ 2 25.6	6 19 41.66	— 2.34	117 57 54.5	—10.8
	23	VI, 2[2]	8.0	9	19 54.31	+ 0.80	— 12.93	66 43 57.12	+ 5 5.44	+ 2 25.6	6 19 42.18	— 2.34	117 57 49.4	—10.8
	24	γ Geminorum		9	31 5.39	+ 0.51	**— 12.91**	22 17 58.08	+ 5 22.12	+ 25.8	6 30 52.98	. .	73 30 7.2	+ 0.7
	25	α Canis Majoris		9	40 8.87	+ 0.71	**— 12.95**	55 21 51.70	+ 3 41.08	+ 1 30.8	6 39 56.66	. .	106 33 24.8	— 0.8
	26	51 Cephei		7	45 13.26	— 6.07	— 12.91	311 37 58.75	+ 3 3.83	— 1 10.4	6 44 54.28	. .	2 46 13.4	+ 0.4
	27	δ Geminorum		9	13 16.32	+ 0.47	**— 12.91**	16 37 58.30	+ 3 27.43	+ 18.8	7 13 3.87	. .	67 48 5.7	— 0.4
	28	B. A. C. 2449		9	18 42.54	+ 0.82	— 12.92	70 31 54.72	+ 0 41.49	+ 2 56.1	7 18 30.44	— 2.52	121 41 53.5	—11.0
	29	α[1] Geminorum		8	27 15.70	+ 0.39	— 12.93	6 39 51.48	+ 4 57.56	+ 7.4	7 27 3.16	— 3.22	57 51 17.6	— 5.8
	30	α[2] Geminorum		3	27 16.06	+ 0.39	**— 12.86**	6 39 51.48	+ 4 53.83	+ 7.4	7 27 3.52	. .	57 51 13.9	+ 1.1
	31	O. Arg. N. 9125	8.2	7	30 25.46	+ 0.19	— 12.98	347 43 50.92	+ 5 31.12	— 13.6	8 30 12.67	— 4.01	38 55 29.6	— 9.7
	32	O. Arg. N. 9212	8.8	9	33 57.33	+ 0.19	— 12.98	347 43 50.92	+ 5 40.61	— 13.6	8 33 44.54	— 4.00	38 55 39.1	—10.0
	33	B. A. C. 3012		9	45 37.83	+ 0.89	— 12.99	77 27 57.82	+ 3 11.24	+ 4 38.0	8 45 25.73	— 2.73	128 42 8.3	— 9.3
	34	B. A. C. 3081		9	55 53.84	+ 0.91	— 13.00	79 31 52.40	+ 3 50.08	+ 5 32.2	8 55 41.75	— 2.76	130 47 35.9	— 8.8
	35	σ[2] Ursæ Majoris		9	0 13.22	— 0.21	— 13.00	331 13 52.10	+ 3 35.72	— 34.4	9 0 0.01	. .	22 23 14.6	+ 1.0
	36	B. A. C. 3162[2]		9	11 41.93	+ 0.35	— 13.01	1 29 52.78	+ 5 39.76	+ 1.7	9 11 29.27	— 3.27	52 41 55.4	—13.6
	37	1 Draconis		8	20 27.94	— 1.72	— 13.02	316 59 52.48	+ 3 58.00	— 58.5	9 20 13.20	. .	8 9 13.2	+ 1.1
	38	B. A. C. 3303 (R)			. . . .	. .	. .	140 25 59.08	+ 4 49.02	— 51.8	. . . .	. .	90 36 24.9	—12.7
	39	B. A. C. 3303			. . . .	. .	. .	39 23 58.58	+ 5 13.28	+ 51.8	9 34 . .	. .	90 36 24.9	—12.7
	40	ε Leonis		4	39 21.33	+ 0.44	**— 13.20**	14 29 51.90	+ 4 28.32	+ 16.4	9 39 8.74	. .	65 40 57.8	— 0.2
	41	μ Leonis		9	46 15.10	+ 0.42	**— 12.99**	12 15 58.70	+ 3 41.70	+ 13.8	9 46 2.48	. .	63 26 15.4	— 0.1
	42	Anonymous	12.5	6	52 53.91	+ 0.50	— 13.04	23 15 55.90	+ 6 14.41	+ 27.2	9 52 41.37	— 2.72	74 28 58.7	—14.9
	43	α Leonis		9	2 17.09	+ 0.52	**— 12.93**	26 15 56.88	+ 4 31.80	+ 31.2	10 2 4.56	. .	77 27 21.1	— 0.2
	44	32 Ursæ Majoris (R)			. . . .	. .	. .	206 43 50.05	+ 3 49.97	+ 31.9	. . . .	. .	24 18 9.3	— 5.1
	45	32 Ursæ Majoris			. . . .	. .	. .	333 8 3.10	+ 4 21.70	— 31.9	10 9 . .	. .	24 18 14.1	— 0.3
	46	9 Draconis (R)			. . . .	. .	. .	217 19 49.98	+ 4 54.48	+ 48.3	. . . .	. .	13 40 48.4	— 0.4
	47	9 Draconis			. . . .	. .	. .	322 29 53.42	+ 5 23.21	— 48.3	10 25 . .	. .	13 40 49.5	+ 0.7
W.	48	γ Draconis		9	53 2.68	+ 0.26	— 13.25	347 19 53.82	+ 3 58.97	— 14.2	17 52 49.69	. .	38 29 59.8	— 0.3
	49	α Lyræ		9	33 6.86	+ 0.35	**— 13.21**	0 9 53.75	+ 3 27.46	+ 0.2	18 32 53.95	. .	51 19 42.6	— 0.2
	50	β Lyræ		9	45 53.67	+ 0.38	**— 13.27**	5 35 58.38	+ 4 9.65	+ 6.3	18 45 40.79	. .	56 46 35.5	+ 0.1

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	30.23	25.2	22.8
4	30.18	26.4	23.8
6	30.19	27.1	24.5
7	30.19	27.6	25.6
8	30.21	25.0	23.1
14	30.22	22.4	19.6
23	30.24	21.4	18.8
30	30.25	20.6	18.9
33	30.25	20.5	18.3
41	30.26	19.3	17.3
47	30.30	18.5	16.5
48	30.44	17.7	16.8

For summary of the constants of reduction see page 3.

11. One bisection.
4, 35, 37. Three bisections.
1, 6. Four bisections.
21, 26. Five bisections.

ZENITH-POINT CORR.

	″
1 to 7	+ 30.60
8 to 47	+ 33.16
48 to 50	+ 32.67

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
2	— 7.5	— 16 16.5	. .	— 16 24.0
3	— 7.5	+ 16 16.6	. .	+ 16 9.1
6	— 6.7	. . .	— 1.2	— 7.9

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
January 27, W.	1	ζ Aquilæ		3	0 9.32	+ 0.47	— **13.37**	25 7 57.05	+ 4 3.67	+ 29.7	18 59 56.53	. .	76 18 51.6	+ 3.4
	2	δ Draconis		9	12 41.98	+ 0.04	— 13.27	331 21 56.02	+ 5 14.49	— 34.3	19 12 28.75	. .	22 32 57.4	+ 1.2
	3	B. A. C. 6690		9	26 7.89	+ 0.42	— 13.27	11 5 55.35	+ 4 55.02	+ 12.5	19 25 55.04	+ 0.35	62 17 24.1	— 2.9
	4	γ Aquilæ		9	40 48.91	+ 0.50	— **13.31**	28 29 55.42	+ 3 44.22	+ 34.3	19 40 36.14	. .	79 40 35.1	+ 1.2
	5	α Aquilæ		9	45 11.41	+ 0.50	— **13.29**	30 15 58.62	+ 3 45.79	+ 36.8	19 44 58.63	. .	81 26 43.4	+ 0.6
	6	γ Cygni		9	18 9.63	+ 0.36	— **13.17**	358 55 58 35	+ 5 7.59	— 1.1	20 17 56.71	. .	50 7 26.0	+ 2.2
	7	α Cygni		9	37 34.59	+ 0.33	— 13.29	353 58 0.68	+ 4 22.78	— 6.5	20 37 21.63	. .	45 8 38.2	+ 1.7
28	8	Sun S.		9	44 48.16	+ 0.62	— 13.29	57 3 56.38	+ 5 33.36	+ 1 36.9	20 44 35.49	+68.55	108 17 27.8	. .
	9	Sun II, N.		9	47 5.27	+ 0.62	— 13.29	56 31 58.60	+ 5 6.88	+ 1 34.9	20 46 52.60	—68.56	107 45 1.6	. .
	10	α Aquarii		9	59 53.33	+ 0.55	— **13.42**	39 41 55.32	+ 4 41.48	+ 51.8	21 59 40.57	. .	90 53 49.8	+ 2.0
	11	ζ Pegasi		7	35 44.72	+ 0.52	— **13.38**	28 35 55.42	+ 4 28.22	+ 34.0	22 35 31.93	. .	79 47 18.8	+ 2.1
	12	ι Cephei		9	45 38.59	+ 0.14	— 13.32	333 15 58.52	+ 3 27.82	— 31.2	22 45 25.41	. .	24 25 16.3	+ 1.9
	13	α Pegasi		9	59 3.07	+ 0.50	— **13.26**	24 15 57.50	+ 3 12.30	+ 28.0	22 58 50.25	. .	75 25 59.0	+ 0.7
	14	Venus I, N.		9	39 40.36	+ 0.56	— 13.33	41 19 54.82	+ 3 55.28	+ 54.6	23 39 27.59	+ 0.65	92 31 5.9	. .
	15	Venus I, S.		.	. . .	. .	. .	41 19 54.82	+ 4 13.52	+ 54.6	. . . .	. .	92 31 24.1	. .
	16	Jupiter I, N.		6	55 24.55	+ 0.55	— 13.35	34 11 54.85	+ 3 10.76	+ 42.2	0 55 11.75	+ 1.21	85 22 9.0	. .
	17	Jupiter II, S.		5	55 26.98	+ 0.55	— 13.35	34 11 54.85	+ 3 44.12	+ 42.2	0 55 14.18	— 1.22	85 22 42.4	. .
	18	β Andromedæ		9	3 18.09	+ 0.43	— **13.23**	3 49 53.50	+ 4 6.13	+ 4.2	1 3 5.17	. .	55 0 25.0	+ 0.9
	19	B. A. C. 1244		9	55 31.46	+ 0.49	— 13.39	29 9 54.38	+ 3 21.14	+ 35.0	3 55 18.56	— 1.97	80 20 11.7	+ 1.9
	20	Weisse (2) 54		9	6 20.49	+ 0.37	— 13.39	1 11 54.08	+ 1 55.42	+ 1.3	4 6 7.47	— 2.50	52 20 12.0	+10.5
	21	56 Tauri		9	12 49.14	+ 0.44	— 13.39	17 19 53.75	+ 4 15.53	+ 19.6	4 12 36.19	— 2.22	68 30 50.1	+ 5.0
	22	O. Arg. N. 4808		9	19 4.26	+ 0.29	— 13.39	350 47 57.35	+ 4 6.11	— 10.1	4 18 51.16	— 2.92	41 58 14.6	+12.6
	23	O. Arg. N. 4918		9	26 8.26	+ 0.27	— 13.39	349 27 59.80	+ 4 9.13	— 11.6	4 25 55.14	— 3.04	40 38 18.5	+12.5
	24	α Camelop. (R)		.	. . . .	. .	. .	207 9 52.25	+ 4 30.26	+ 32.2	. . . .	. .	23 51 26.5	— 1.3
	25	α Camelop.		8	42 31.77	+ 0.06	— 13.38	332 41 52.82	+ 3 47.61	— 32.2	4 42 18.45	. .	23 51 29.4	+ 1.6
	26	Weisse 1067		3	50 15 29	+ 0.50	— 13.38	35 49 54.50	+ 3 54.23	+ 45.3	4 50 2.41	— 2.18	87 0 55.2	— 2.2
	27	11 Orionis		9	58 1.42	+ 0.46	— **13.35**	23 33 54.10	+ 5 4.49	+ 27.4	4 57 48.50	. .	74 45 47.2	+ 0.9
	28	B. A. C. 1588		9	2 15.01	+ 0.54	— 13.38	44 1 54.98	+ 5 18.03	+ 1 0.7	5 2 2.17	— 2.15	95 14 34.9	— 5.1
	29	α Aurigæ		9	8 10.29	+ 0.30	— 13.38	352 57 59.88	+ 3 8.68	— 7.7	5 7 57.21	. .	44 7 22.1	+ 0.7
	30	B. A. C. 1661		9	16 5.28	+ 0.51	13.38	35 21 57.68	+ 3 47.42	+ 44.5	5 15 52.41	— 2.30	86 32 50.8	— 3.4
	31	Weisse 342		4	16 49.82	+ 0.51	— 13 38	35 21 57.68	+ 5 20.35	+ 44.6	5 16 36.95	— 2.30	86 34 23.8	— 3.4
	32	Weisse 343		6	16 50.95	+ 0.51	— 13.38	35 22 . .	. . .	. .	5 16 38.08	— 2.30	86 34 . .	. .
	33	δ Orionis		9	26 10.79	+ 0.52	— **13.37**	39 11 52.20	+ 4 18.64	+ 51.2	5 25 57.93	. .	90 23 23.2	— 0.4
	34	ε Orionis		9	30 25.71	+ 0.53	— **13.42**	40 5 58.58	+ 3 37.76	+ 52.8	5 30 12.86	. .	91 16 50.3	0.0
	35	ω Orionis (R)		.	. . . .	. .	. .	148 25 56.45	+ 4 0.11	— 38.4	. . . .	. .	82 37 3.0	— 0.4
	36	α Orionis		.	. . . .	. .	. .	31 25 56.75	+ 4 5.80	+ 38.4	5 49 . .	. .	82 37 2.2	— 1.2
	37	δ Ursæ Min., S. P.		5	10 25.98	+ 3.80	— 13.37	305 27 59.92	+ 3 32.04	— 1 27.7	18 10 16.41	. .	356 36 25.5	+ 1.7
	38	51 Cephei		11	45 11.44	— 3.58	— 13.37	311 38 0.55	+ 3 2.76	— 1 10.4	6 44 54.49	. .	2 46 14.1	+ 1.4
	39	B. A. C. 2502		1	29 47.87	+ 0.68	— 13.37	74 53 57.12	+ 0 56.07	+ 3 49.8	7 29 35.18	— 2.57	126 5 4.2	—11.3
	40	Stone 3761		9	33 19.90	+ 0.68	— 13.37	74 54 . .	. . . .	. .	7 33 7.21	— 2.58	126 9 . .	. .
	41	B. A. C. 2536		9	34 40.51	+ 0.68	— 13.37	74 54 . .	. . . .	. .	7 34 27.82	— 2.58	126 13 . .	. .
	42	B. A. C. 2608		9	45 4.20	+ 0.67	— 13.37	73 43 50.85	+ 3 10.56	+ 3 33.4	7 44 51.50	— 2.60	124 56 56.0	—11.1
	43	B. A. C. 2671		9	55 31.81	+ 0.70	— 13.37	77 43 57.68	+ 3 23.81	+ 4 44.1	7 55 19.14	— 2.65	128 58 26.8	—10.8
	44	B. A. C. 2735		9	3 45.17	+ 0.67	— 13.37	73 38 1.12	+ 4 10.96	+ 3 32.4	8 3 32.47	— 2.64	124 52 5.7	—10.8
	45	B. A. C. 2777		5	9 45.46	+ 0.68	— 13.36	74 43 57.10	+ 3 47.79	+ 3 48.1	8 9 32.78	— 2.66	125 57 54.2	—10.6
	46	Brisbane 1942		6	9 45.83	+ 0.68	— 13.36	74 43 57.10	+ 4 56.98	+ 3 48.4	8 9 33.15	— 2.66	125 59 3.7	—10.6
	47	Lacaille 3325		9	22 45.00	+ 0.65	— 13.36	70 3 58.58	+ 3 51.09	+ 2 52.6	8 22 32.29	— 2.64	121 17 3.5	—10.6
	48	η Cancri		9	26 5.44	+ 0.42	— **13.32**	17 57 58.92	+ 4 53.58	+ 20.5	8 25 52.54	. .	69 9 34.2	+ 2.8
	49	ε Hydræ (R)		.	. . . .	. .	. .	147 53 56.08	+ 4 8.89	— 39.3	. . . .	. .	83 8 55.5	— 0.4
	50	ε Hydræ		.	. . . .	. .	. .	31 57 58.82	+ 3 57.12	+ 39.3	8 40 . .	. .	83 8 56.4	+ 0.5

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.47	21.4	19.7
5	30.48	22.9	21.0
9	30.45	24.6	22.2
10	30.43	26.4	25.5
15	30.43	28.7	27.8
18	30.44	29.2	27.9
19	30.47	25.7	23.8
39	30.47	23.1	21.7

For summary of the constants of reduction see page 3.

10, 30, 36, 45, 46. One bisection.
5, 13. Four bisections.
38. Five bisections.

ZENITH-POINT CORR.
1 to 15 + 32.67
16 to 50 + 33.31

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
8	— 7.5	— 16 13.1	. .	— 16 20.6
9	— 7.5	+ 16 13.1	. .	+ 16 5.6
14	— 6.5	+ 9.5	— 0.8	+ 2.2
15	— 6.5	— 9.5	. .	— 16.0
16	— 0.9	+ 16.7	. .	+ 15.8
17	— 0.9	— 16.7	. .	— 17.6

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
January 28, W.	1	ι Ursæ Majoris (R)	.	.	. . . .	. .	. .	189 31 50.35	+ 4 36.87	+ 10.6	. . . .	. .	41 29 43.4	− 0.4
	2	ι Ursæ Majoris	.	.	. . . .	. .	. .	350 19 53.15	+ 3 41.04	− 10.6	8 51 . .	. .	41 29 44.8	+ 1.0
	3	κ Cancri	.	9	1 33.73	+ 0.47	**− 13.33**	27 39 53.92	+ 4 40.41	+ 33.1	9 1 20.84	. .	78 51 28.6	+ 2.4
	4	α Hydræ	.	9	21 59.90	+ 0.54	**− 13.43**	46 58 0.22	+ 3 21.76	+ 1 7.4	9 21 47.08	. .	98 8 50.6	+ 1.8
Feb. 3, R.	5	β Lyræ	.	3	45 55.39	+ 0.46	**− 14.92**	5 35 58.80	+ 4 11.68	+ 6.3	18 45 40.87	. .	56 46 38.0	+ 0.9
	6	ζ Aquilæ	.	9	0 10.91	+ 0.61	**− 14.96**	25 8 2.65	+ 3 56.78	+ 29.6	18 59 56.54	. .	76 18 50.2	+ 0.9
	7	δ Draconis	.	9	12 43.69	− 0.18	− 14.98	331 21 54.15	+ 5 18.04	− 34.2	19 12 28.53	. .	22 32 59.2	+ 0.8
	8	γ Aquilæ	.	9	40 50.57	+ 0.64	**− 15.00**	28 29 55.82	+ 3 43.87	+ 34.1	19 40 36.22	. .	79 40 35.0	+ 0.1
	9	α Aquilæ	.	3	45 13.13	+ 0.66	**− 15.06**	30 16 1.12	+ 3 44.38	+ 36.6	19 44 58.80	. .	81 26 43.3	− 0.5
4	10	Sun I, S.	.	8	13 21.48	+ 0.84	− 15.01	55 5 59.85	+ 3 48.15	+ 1 29.1	21 13 7.31	+67.81	106 17 38.3	. .
	11	Sun II, N.	.	7	15 37.10	+ 0.84	− 15.01	54 33 47.45	+ 3 32.11	+ 1 27.3	21 15 22.93	−67.81	105 45 8.1	. .
	12	Mercury C.	.	.	. . . .	. .	. .	54 17 58.40	+ 4 2.75	+ 1 26.2	21 44 . .	. .	105 30 8.6	. .
	13	ζ Pegasi	.	.	. . . .	. .	. .	28 36 0.38	+ 4 23.77	+ 33.8	22 36 . .	. .	79 47 19.2	+ 1.8
	14	ι Cephei	.	9	45 40.28	− 0.02	− 15.04	333 15 57.12	+ 3 29.81	− 31.0	22 45 25.22	. .	24 25 17.1	+ 0.8
	15	α Pegasi	.	9	59 4.69	+ 0.64	**− 15.05**	24 15 56.48	+ 3 14.63	+ 27.9	22 58 50.29	. .	75 26 0.2	+ 1.0
	16	α Andromedæ	.	9	2 29.20	+ 0.55	**− 14.99**	10 23 58.02	+ 3 19.51	+ 11.4	0 2 14.69	. .	61 33 50.1	+ 1.1
	17	β Ceti	.	9	37 51.87	+ 0.87	**− 15.17**	57 26 0.35	+ 4 30.37	+ 1 36.5	0 37 37.67	. .	108 38 28.4	+ 2.5
	18	Jupiter I, S.	.	5	59 46.70	+ 0.71	− 15.07	33 41 56.65	+ 4 55.81	+ 41.3	0 59 32.34	+ 1.14	84 53 55.0	. .
	19	Jupiter II, N.	.	5	59 48.98	+ 0.71	− 15.07	33 41 56.65	+ 4 26.73	+ 41.2	0 59 34.62	− 1.14	84 53 25.8	. .
	20	β Andromedæ	.	9	3 19.64	+ 0.49	**− 14.95**	3 49 56.05	+ 4 5.65	+ 4.2	1 3 5.06	. .	55 0 27.1	+ 2.2
	21	Polaris	.	9	15 24.70	−13.81	− 15.07	310 9 56.58	+ 4 1.38	− 1 12.9	1 14 55.82	. .	1 19 6.3	+ 0.5
	22	Saturn I, N.	.	6	31 34.80	+ 0.70	− 15.08	31 48 1.98	+ 5 24.31	+ 38.4	1 31 20.42	+ 0.55	83 0 25.9	. .
	23	Saturn II, S.	.	5	31 35.90	+ 0.70	− 15.08	31 48 1.98	+ 5 37.55	+ 38.4	1 31 21.52	− 0.55	83 0 39.1	. .
	24	β Arietis	.	9	48 19.74	+ 0.60	**− 15.12**	18 36 1.20	+ 3 37.14	+ 20.9	1 48 5.26	. .	69 46 20.4	+ 1.8
	25	Moon I, S.	.	9	57 55.94	+ 0.62	− 15.09	22 57 59.90	+ 2 37.62	+ 26.3	1 57 41.47	+66.55	74 7 25.0	. .
	26	α Arietis	.	5	0 43.82	+ 0.57	**− 15.12**	15 55 56.55	+ 3 19.39	+ 17.7	2 0 29.30	. .	67 5 54.8	+ 0.8
W.	27	α Lyræ	.	9	33 9.31	+ 0.42	**− 15.54**	0 9 52.85	+ 3 30.51	+ 0.2	18 32 54.13	. .	51 19 44.8	− 0.1
	28	ζ Aquilæ	.	9	0 11.61	+ 0.60	**− 15.63**	25 8 0.65	+ 3 59.28	+ 29.7	18 59 56.60	. .	76 18 50.8	+ 1.3
	29	Mars C.	.	9	12 37.24	+ 0.81	− 15.61	61 58 2.28	+ 3 35.14	+ 1 58.5	19 12 22.44	0.00	113 9 57.1	. .
	30	δ Aquilæ	.	9	19 45.10	+ 0.67	**− 15.64**	35 55 59.22	+ 4 13.45	+ 45.8	19 19 30.16	. .	87 7 19.7	+ 0.3
	31	α Aquilæ	.	9	45 13.73	+ 0.65	**− 15.63**	30 15 54.02	+ 3 51.75	+ 36.8	19 44 58.76	. .	81 26 43.8	− 0.1
5	32	Sun I, S.	.	9	17 23.61	+ 0.80	− 15.64	54 45 55.52	+ 5 35.11	+ 1 28.7	20 17 8.77	+67.68	105 59 20.5	. .
	33	Sun II, N.	.	9	19 38.97	+ 0.80	− 15.64	54 14 0.35	+ 5 3.28	+ 1 26.9	20 19 24.13	−67.68	105 26 51.7	. .
	34	Mercury I, C.	.	9	51 32.52	+ 0.79	− 15.64	53 37 59.90	+ 3 51.06	+ 1 24.7	21 51 17.67	+ 0.17	104 49 36.9	. .
	35	ι Piscium	.	9	34 5.16	+ 0.67	**− 15.61**	33 50 . .	. .	. .	23 33 50.16	. .	85 1 . .	. .
	36	α Andromedæ	.	9	2 29.89	+ 0.54	**− 15.68**	10 23 53.15	+ 3 24.88	+ 11.5	0 2 14.76	. .	61 33 50.7	+ 1.6
	37	γ Pegasi	.	9	7 22.14	+ 0.62	**− 15.68**	24 17 57.08	+ 3 50.48	+ 28.1	0 7 7.09	. .	75 28 36.9	+ 2.9
	38	Venus I, S.	.	9	11 12.17	+ 0.69	− 15.67	37 11 51.42	+ 4 51.19	+ 47.2	0 10 57.19	+ 0.70	88 23 51.0	. .
	39	B. A. C. 126	.	9	26 30.23	+ 0.15	− 15.68	336 33 52.32	+ 3 25.68	− 26.8	0 26 14.70	+ 0.06	27 43 12.4	+20.1
	40	B. A. C. 166	.	9	33 13.69	+ 0.53	− 15.68	8 35 55.32	+ 4 48.42	+ 9.5	0 32 58.54	− 0.63	59 47 14.4	+12.0
	41	β Ceti	.	9	37 52.48	+ 0.81	**− 15.73**	57 25 58.60	+ 4 31.82	+ 1 37.3	0 37 37.61	. .	108 38 28.9	+ 3.0
	42	B. A. C. 253	.	9	49 48.06	+ 0.20	− 15.68	338 45 57.78	+ 3 29.36	− 24.1	0 49 32.58	− 0.36	29 55 24.2	+20.4
	43	Jupiter I, N.	.	6	0 26.33	+ 0.67	− 15.69	33 37 57.55	+ 4 7.89	+ 41.4	1 0 11.31	+ 1.15	84 49 8.0	. .
	44	Jupiter II, S.	.	5	0 28.64	+ 0.67	− 15.69	33 37 57.55	+ 4 39.97	+ 41.4	1 0 13.62	− 1.16	84 49 40.1	. .
	45	Polaris	.	7	15 24.04	−11.26	− 15.69	310 9 54.80	+ 4 5.37	− 1 13.4	1 14 57.09	. .	1 19 8.0	+ 2.0
	46	η Piscium	.	9	25 23.02	+ 0.62	**− 15.65**	24 3 54.90	+ 5 15.46	+ 27.9	1 25 7.95	. .	75 15 59.5	+ 1.5
	47	Saturn I, N.	.	6	31 51.57	+ 0.66	− 15.69	31 48 1.35	+ 3 37.18	+ 38.6	1 31 36.54	+ 0.50	82 58 38.3	. .
	48	Saturn II, S.	.	5	31 52.58	+ 0.66	− 15.69	31 48 1.35	+ 3 47.48	+ 38.6	1 31 37.55	− 0.51	82 58 48.6	. .
	49	β Arietis	.	9	48 20.31	+ 0.59	**− 15.70**	18 35 56.28	+ 3 42.32	+ 21.0	1 48 5.20	. .	69 46 20.8	+ 2.1
	50	α Arietis (R)	.	.	. . . .	. .	. .	163 55 54.68	+ 4 49.26	− 17.8	. . . .	. .	67 5 55.1	+ 1.1

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
4	30.45	22.1	20.7
5	30.18	15.8	15.5
7	30.18	17.6	17.3
9	30.19	19.6	19.3
11	30.16	22.6	22.0
12	30.16	23.6	23.7
13	30.14	25.2	24.4
16	30.15	26.8	26.1
21	30.16	26.2	25.0
26	30.17	25.0	23.8
27	30.38	16.1	16.2
31	30.41	20.5	19.8
33	30.40	23.5	22.8
34	30.40	24.9	24.2
38	30.38	26.8	25.8
50	30.40	26.0	25.3

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

			″
25.	Three bisections.	1 to 4	+ 33.31
27, 29, 30, 31, 34, 38.	Four bisections.	5 to 26	+ 31.36
21, 45.	Five bisections.	27 to 50	+ 30.96

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
10	− 7.3	− 16 15.1	. .	− 16 22.4
11	− 7.3	+ 16 15.1	. .	+ 16 7.8
12	− 2.3	. .	0.0	− 2.3
18	− 0.9	− 14.6	. .	− 15.5
19	− 0.9	+ 14.6	. .	+ 13.7
22	− 0.5	+ 6.6	. .	+ 6.1
23	− 0.5	− 6.6	. .	− 7.1
25	− 21 50.6	− 15 23.5	. .	− 37 14.1
29	− 3.5	. .	0.0	− 3.5
32	− 7.3	− 16 14.4	. .	− 16 21.7
33	− 7.3	+ 10 14.4	. .	+ 16 17.1
34	− 5.4	. .	0.0	− 5.4
38	− 6.6	− 10.5	. .	− 17.1
43	− 0.9	+ 16.0	. .	+ 15.1
44	− 0.9	− 16.1	. .	− 17.0
47	− 0.5	+ 5.1	. .	+ 4.6
48	− 0.5	− 5.2	. .	− 5.7

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
February 5, W.	1	α Arietis		.	. . .	. .	. .	15 55 53.98	+ 3 22.03	+ 17.8	2 0 . .	. .	67 5 55.0	+ 1.0
	2	ξ² Ceti		9	22 6.34	+ 0.66	— **15.73**	30 53 54.88	+ 3 31.55	+ 37.4	2 21 51.30	. .	82 4 25.0	+ 2.0
	3	μ Arietis		9	35 56.02	+ 0.59	— 15.71	19 19 51.82	+ 3 5.67	+ 21.9	2 35 40.90	— 1.46	70 29 40.6	+ 7.7
	4	40 Arietis		9	42 8.41	+ 0.60	— 15.71	21 1 51.28	+ 4 4.87	+ 24.1	2 41 53.30	— 1.48	72 12 41.5	+ 6.9
	5	Moon I, S.		9	50 52.51	+ 0.60	— 15.71	19 25 53.72	+ 6 54.59	+ 22.2	2 50 37.40	+66.94	70 39 31.7	. .
	6	54 Arietis		9	1 53.17	+ 0.60	— 15.71	20 29 53.38	+ 3 2.57	+ 23.4	3 1 38.06	— 1.62	71 39 40.6	+ 6.6
	7	δ Arietis		9	5 6.24	+ 0.60	— 15.71	19 31 52.28	+ 4 46.30	+ 22.2	3 4 51.13	— 1.65	70 43 22.0	+ 6.8
	8	ν Orionis		6	1 4.35	+ 0.49	— **15.58**	24 1 51.72	+ 4 32.00	+ 28.3	6 0 49.10	. .	75 13 13.2	+ 2.4
	9	δ Ursæ Min., s. p.		4	10 27.68	+ 6.82	— 15.74	305 27 55.95	+ 3 34.75	— 1 28.5	18 10 18.76	. .	356 36 23.4	+ 1.7
	10	D. M. + 35°, 1443		9	26 0.39	+ 0.32	— 15.74	3 17 55.10	+ 4 27.79	+ 3.7	6 25 44.97	— 3.14	54 28 47.8	+ 0.4
	11	γ Geminorum		9	31 8.17	+ 0.47	— **15.70**	22 17 53.38	+ 5 27.17	+ 26.1	6 30 52.90	. .	73 30 7.9	+ 1.2
	12	α Canis Majoris		9	40 11.66	+ 0.70	— **15.78**	55 21 53.12	+ 3 41.01	+ 1 31.9	6 39 56.62	. .	106 33 27.2	— 0.1
	13	51 Cephei		6	45 15.47	— 7.21	— 15.74	311 37 56.80	+ 3 4.83	— 1 11.2	6 44 52.52	. .	2 46 11.6	+ 1.2
	14	B. A. C. 2323	6	9	59 40.61	+ 0.45	— 15.74	20 53 53.52	+ 4 1.88	+ 24.4	6 59 25.32	— 2.82	72 4 41.0	— 5.8
	15	δ Canis Majoris		9	3 50.71	+ 0.76	— **15.88**	64 59 54.22	+ 4 0.37	+ 2 16.2	7 3 35.73	. .	116 12 32.0	+ 0.5
	16	Weisse (2) 955		9	34 9.17	+ 0.41	— 15.74	15 29 51.65	+ 6 3.67	+ 17.8	7 33 53.84	— 3.01	66 42 34.3	— 7.1
	17	B. A. C. 2593		8	42 44.90	+ 0.88	— 15.74	78 29 53.68	+ 4 54.93	+ 5 8.3	7 42 30.04	— 2.59	129 46 18.1	—13.5
	18	85 Geminorum		6	49 1.41	+ 0.42	— 15.74	18 37 53.80	+ 3 42.94	+ 21.6	7 48 46.09	— 2.97	69 48 19.5	— 8.5
	19	B. A. C. 2699		9	58 43.27	+ 0.80	— 15.74	70 53 53.30	+ 4 46.32	+ 3 3.8	7 58 28.33	— 2.60	122 8 4.6	—13.2
	20	B. A. C. 2735		3	3 47.68	+ 0.83	— 15.74	73 37 56.92	+ 4 14.94	+ 3 36.0	8 3 32.77	— 2.63	124 52 9.1	—13.1
	21	B. A. C. 2794		9	14 2.61	+ 0.83	— 15.74	73 49 55.55	+ 5 11.34	+ 3 39.2	8 13 47.70	— 2.66	125 5 7.3	—13.0
	22	ε Hydræ (R)		.	. . . .	. .	. .	147 53 54.48	+ 4 9.87	— 40.1	. . . .	. .	83 8 56.9	+ 0.3
	23	ε Hydræ		.	. . . .	. .	. .	31 57 58.82	+ 3 57.20	+ 40.1	8 40 . .	. .	83 8 57.3	+ 0.7
6, E.	24	Venus I, S.		9	15 3.80	+ 0.55	— 15.69	36 41 56.00	+ 3 57.07	+ 45.9	0 14 48.66	+ 0.71	87 53 0.2	. .
	25	Venus N.		.	. . . .	. .	. .	36 41 56.00	+ 3 37.46	+ 45.9	. . . .	. .	87 52 40.6	. .
	26	α Cassiopeæ (R)		.	. . . .	. .	. .	196 53 55.18	+ 5 33.51	+ 18.8	. . . .	. .	34 6 33.7	— 3.7
	27	α Cassiopeæ		.	. . . .	. .	. .	342 55 52.28	+ 4 44.59	— 18.8	0 34 . .	. .	34 6 39.3	+ 1.9
	28	β Ceti		4	37 52.66	+ 0.70	— **15.81**	57 25 55.22	+ 4 34.22	+ 1 36.4	0 37 37.67	. .	108 38 27.0	+ 1.1
	29	B. A. C. 253		9	49 48.21	— 0.03	— 15.69	338 46 0.70	+ 3 24.96	— 23.9	0 49 32.49	— 0.33	29 55 23.0	+20.2
	30	ε Piscium		8	57 2.07	+ 0.51	— **15.73**	31 33 51.30	+ 4 8.22	+ 38.0	0 56 46.89	. .	82 44 58.7	+ 0.5
	31	Polaris		9	15 23.37	—13.34	— 15.69	310 9 52.72	+ 4 5 58	— 1 12.8	1 14 54.34	. .	1 19 6.7	+ 0.6
	32	η Piscium		8	25 23.10	+ 0.46	— **15.59**	24 3 57.20	+ 5 10.94	+ 27.7	1 25 7.87	. .	75 15 57.0	— 1.0
	33	β Arietis		9	48 20.39	+ 0.41	— **15.61**	18 35 56.68	+ 3 41.51	+ 20.9	1 48 5.11	. .	69 46 20.3	+ 1.5
	34	α Arietis (R)		.	. . . .	. .	. .	163 55 55.38	+ 4 48.20	— 17.7	. . . .	. .	67 5 55.3	+ 1.2
	35	α Arietis		.	. . . .	. .	. .	15 55 56.58	+ 3 18.75	+ 17.7	2 0 . .	. .	67 5 54.2	+ 0.1
	36	ξ¹ Ceti		9	6 58.00	+ 0.50	— **15.69**	30 32 . .	. .	. .	2 6 42.81	. .	81 43 . .	. .
	37	α Ceti		9	56 20.17	+ 0.53	— **15.69**	35 11 52.70	+ 3 42.83	+ 43.9	2 56 5.01	. .	86 22 40.6	+ 1.0
	38	B. A. C. 955		9	59 23.47	— 0.64	— 15.69	324 53 55.50	+ 3 43.48	— 43.5	2 59 7.14	— 3.02	16 3 16.7	+23.3
	39	ζ Arietis		9	8 20.68	+ 0.41	— **15.66**	18 11 52.25	+ 5 11.16	+ 20.5	3 8 5.40	. .	69 23 45.1	+ 0.6
	40	B. A. C. 1037		9	14 29.79	+ 0.72	— 15.69	60 57 56.15	+ 5 28.82	+ 1 52.0	3 14 14.82	— 1.31	112 11 38.2	— 7.3
	41	Lalande 6268		9	17 54.18	+ 0.47	— 15.69	26 37 56.22	+ 2 45.75	+ 31.3	3 17 38.96	— 1.64	77 47 34.5	+ 3.8
	42	Weisse (2) 466		9	24 26.11	+ 0.35	— 15.69	11 39 49.50	+ 3 37.56	+ 12.9	3 24 10.77	— 1.85	62 50 1.2	+ 8.9
	43	Weisse (2) 467		9	24 26.99	+ 0.35	— 15.69	11 39 49.50	+ 3 37.56	+ 12.9	3 24 11.65	— 1.85	62 50 1.2	+ 8.9
	44	B. A. C. 1143		9	37 49.91	+ 0.40	— 15.69	18 15 55.22	+ 4 12.37	+ 20.7	3 37 34.62	— 1.86	69 26 49.4	+ 6.0
	45	B. A. C. 1170		9	41 35.38	+ 0.38	— 15.69	15 45 54.30	+ 4 5.5[illegible]	+ 17.7	3 41 20.07	— 1.92	66 56 38.7	+ 6.7
	46	Moon I, S.		9	44 22.02	+ 0.39	— 15.69	17 5 55.28	+ 3 42.05	+ 19.2	3 44 6.72	+67.26	68 16 17.7	. .
	47	γ¹ Eridani		9	52 45.43	+ 0.64	— **15.79**	52 39 54.75	+ 3 21.78	+ 1 21.9	3 52 30.38	. .	103 50 59.6	+ 0.4
	48	36 Tauri		9	57 32.01	+ 0.38	— 15.69	15 1 50.35	+ 4 48.68	+ 16.9	3 57 16.70	— 2.03	66 13 17.1	+ 6.3
	49	B. A. C. 1289		9	6 5.28	+ 0.39	— 15.69	16 41 51.42	+ 5 1.98	+ 18.8	4 5 49.98	— 2.06	67 53 33.4	+ 5.3
	50	γ Tauri		9	13 18.52	+ 0.44	— **15.61**	23 27 58.08	+ 4 51.83	+ 27.2	4 13 3.27	. .	74 39 38.3	+ 1.3

No.	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*		No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°				′ ″	′ ″	′ ″	′ ″
4	30.40	25.7	23.7			5	—18 24.3	— 15 10.6	. .	— 33 34.9
7	30.39	25.0	23.2		ZENITH-POINT CORR.	24	— 6.5	— 10.2	. .	— 16.7
8	30.42	20.7	17.4		″	25	— 6.5	+ 10.2	— 0.8	+ 2.9
23	30.44	12.3	11.9	1, 17. One bisection.	1 to 7 + 30.96	46	—16 1.3	— 15 0.1	. .	— 31 1.4
24	30.60	33.1	34.0	31. Three bisections	8 to 23 + 32.39					
39	30.68	31.0	30.0	3, 4, 5, 6. Four bisections.	24 to 50 + 30.91					
50	30.69	30.0	27.2	46. Five bisections.						

DATE. AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
February 11, R.	1	γ Cygni		9	18 14.18	+ 0.24	− **17.40**	358 55 51.55	+ 5 15.85	− 1.0	20 17 56.90	. .	50 7 27.6	− 0.3
	2	α Cygni		9	37 39.28	+ 0.05	− **17.54**	353 57 56.40	+ 4 30.60	− 5.9	20 37 21.79	. .	45 8 42.3	+ 1.6
	3	ζ Cygni		9	8 9.21	+ 0.55	− **17.68**	9 3 50.52	+ 5 17.16	+ 9.1	21 7 52.20	. .	60 15 38.0	+ 0.8
	4	α Cephei		9	16 0.83	− 0.96	− 17.57	336 43 54.25	+ 5 13.91	− 24.0	21 15 42.30	. .	27 55 5.4	+ 3.3
12	5	Sun I, S.		9	45 10.58	+ 1.55	− 17.59	52 31 49.78	+ 4 55.87	+ 1 13.2	21 44 54.54	+66.80	103 44 20.0	. .
	6	Sun II, N.		9	47 24.19	+ 1.55	− 17.59	51 59 49.38	+ 4 30.60	+ 1 11.8	21 47 8.15	−66.81	103 11 53.0	. .
	7	Mercury I, C.		9	38 20.52	+ 1.46	− 17.62	48 21 49.85	+ 4 9.85	+ 1 3.2	22 38 4.36	+ 0.19	99 33 24.1	. .
	8	ι Cephei		9	45 43.89	− 1.31	− 17.63	333 15 52.22	+ 3 35.47	− 28.2	22 45 24.95	. .	24 25 20.7	+ 2.1
	9	α Piscis Aust.		9	51 20.30	+ 2.01	− **17.77**	69 1 50.38	+ 4 32.23	+ 2 25.7	22 51 4.68	. .	120 15 9.5	+ 0.6
	10	α Pegasi		9	59 6.99	+ 0.92	− **17.64**	24 15 51.38	+ 3 24.69	+ 25.3	22 58 50.27	. .	75 26 2.6	+ 2.5
	11	γ Cephei		9	34 46.52	− 3.68	− 17.66	321 51 47.30	+ 4 12.47	− 43.8	23 34 25.18	. .	13 1 37.2	+ 0.7
	12	α Andromedæ		9	2 31.70	+ 0.58	− **1**	10 23 49.90	+ 3 27.70	+ 10.3	0 2 14.61	. .	61 33 40.1	− 1.1
	13	γ Pegasi		8	7 23.75	+ 0.92	− **1**	24 17 50.72	+ 3 58.50	+ 25.4	0 7 7.00	. .	75 28 35.8	+ 1.1
	14	α Cassiopeæ		9	34 4.00	− 0.49	− 17.68	342 55 49.78	+ 4 44.65	− 17.1	0 33 55.83	. .	34 6 38.5	− 0.1
	15	Venus I, S.		9	37 52.70	+ 1.13	− 17.68	33 37 54.48	+ 5 12.30	+ 37.4	0 37 36.15	+ 0.75	84 50 5.4	. .
	16	Venus N.		.	. . . .	. .	. .	33 37 54.48	+ 4 48.06	+ 37.4	. . . .	. .	84 49 41.1	. .
	17	Jupiter I, S.		6	5 12.07	+ 1.11	− 17.69	33 7 55.52	+ 3 55.09	+ 36.7	1 4 55.49	+ 1.02	84 18 48.5	. .
	18	Jupiter II, N.		5	5 14.22	+ 1.11	− 17.69	33 7 55.52	+ 3 24.61	+ 36.7	1 4 57.54	− 1.03	84 18 18.0	. .
	19	Polaris		5	15 54.40	−47.08	− 17.70	310 9 48.82	+ 4 2.66	− 1 6.3	1 14 49.62	. .	1 19 6.4	− 0.5
	20	η Piscium		9	25 24.72	+ 0.90	− **17.72**	24 3 49.20	+ 5 23.62	+ 25.2	1 25 7.92	. .	75 15 59.2	+ 0.7
	21	β Arietis		9	48 22.03	+ 0.78	− **17.71**	18 35 51.58	+ 3 48.50	+ 19.0	1 48 5.10	. .	69 46 20.3	+ 0.9
	22	Arietis		9	0 46.13	+ 0.71	− **17.69**	15 55 50.45	+ 3 26.19	+ 16.2	2 0 29.13	. .	67 5 54.0	− 0.7
	23	Weisse (2) 54		4	6 24.74	+ 0.30	− 17.76	1 11 48.08	+ 2 1.60	+ 1.2	4 6 7.28	− 2.22	52 20 12.1	+10.5
13, E.	24	ζ Aquilæ		9	0 14.78	+ 1.00	− **19.00**	25 7 49.95	+ 4 11.41	+ 29.0	18 59 56.73	. .	76 18 51.6	+ 0.8
	25	B. A. C. 6690		9	26 13.66	+ 0.56	− 19.04	11 5 49.05	+ 5 4.31	+ 12.2	19 25 55.18	+ 0.03	62 17 26.8	− 6.6
	26	γ Aquilæ		9	40 54.37	+ 1.10	− **19.08**	28 29 48.88	+ 3 52.18	+ 33.5	19 40 36.43	. .	79 40 35.8	− 0.4
	27	α Aquilæ		9	45 16.82	+ 1.15	− **19.05**	30 15 51.00	+ 3 55.46	+ 35.9	19 44 58.93	. .	81 26 43.6	− 1.4
14	28	Sun I, N.		9	53 0.49	+ 1.77	− 19.03	51 19 46.40	+ 3 46.27	+ 1 16.6	21 52 43.23	+66.75	102 31 10.5	. .
	29	Sun II, S.		9	55 14.00	+ 1.77	− 19.03	51 51 46.08	+ 4 11.53	+ 1 18.1	21 54 56.74	−66.76	103 3 36.9	. .
	30	Mercury I, C.		9	50 43.78	+ 1.63	− 19.02	46 43 46.90	+ 5 10.16	+ 1 5.1	22 50 26.39	+ 0.20	97 56 23.4	. .
	31	α Pegasi		9	59 8.32	+ 0.99	− **1**	24 15 48.05	+ 3 24.12	+ 27.6	22 58 50.29	. .	75 26 1.0	+ 0.6
	32	α Andromedæ		9	2 33.09	+ 0.56	− **1**	10 23 47.88	+ 3 30.90	+ 11.3	0 2 14.64	. .	61 33 51.3	+ 0.7
	33	Venus I, S.		9	45 21.44	+ 1.24	− 19.01	32 37 50.78	+ 5 12.58	+ 39.2	0 45 3.67	+ 0.76	83 50 3.8	. .
	34	Polaris		8	16 11.88	−65.01	− 19.00	310 9 46.08	+ 4 11.19	− 1 12.1	1 14 47.87	. .	1 19 6.4	− 0.9
15, R.	35	ζ Aquilæ		9	0 15.26	+ 1.20	− **19.63**	25 7 55.12	+ 4 6.74	+ 28.4	18 59 56.75	. .	76 18 51.5	+ 0.4
	36	δ Draconis		9	12 50.68	− 1.84	− 19.71	331 21 51.55	+ 5 22.06	− 32.7	19 12 29.13	. .	22 33 2.1	+ 0.3
	37	α Aquilæ		9	45 17.33	+ 1.35	− **19.72**	30 15 52.22	+ 3 58.17	+ 35.0	19 44 58.96	. .	81 26 46.6	+ 1.4
	38	α Cygni		9	37 41.39	+ 0.17	− 19.73	353 57 56.78	+ 4 31.27	− 6.2	20 37 21.83	. .	45 8 43.0	+ 1.2
	39	ζ Cygni		9	8 11.16	+ 0.78	− **19.82**	9 3 52.75	+ 5 16.70	+ 9.5	21 7 52.20	. .	60 15 40.1	+ 2.0
	40	α Cephei		9	16 3.30	− 1.04	− 19.74	336 43 53.32	+ 5 16.18	− 25.1	21 15 42.52	. .	27 55 5.6	+ 2.1
	41	β Cephei		9	27 26.13	− 2.20	− 19.74	328 47 51.82	+ 3 59.52	− 35.3	21 27 4.19	. .	19 57 37.2	0.0
16	42	Sun I, S.		9	0 47.13	+ 1.93	− 19.75	51 9 50.00	+ 4 44.24	+ 1 12.5	22 0 29.31	+66.43	102 22 7.9	. .
	43	Sun II, N.		9	2 59.99	+ 1.93	− 19.75	50 37 56.08	+ 4 14.86	+ 1 11.1	22 2 42.17	−66.43	101 49 43.2	. .
	44	α Andromedæ		9	2 33.59	+ 0.83	− **19.77**	10 23 52.22	+ 3 28.51	+ 10.8	0 2 14.64	. .	61 33 52.7	+ 1.8
	45	γ Pegasi		9	7 25.61	+ 1.23	− **19.83**	24 17 53.80	+ 3 56.04	+ 26.5	0 7 7.06	. .	75 28 37.5	+ 2.4
	46	α Cassiopeæ		9	34 6.01	− 0.45	− 19.79	342 55 49.38	+ 4 47.44	− 17.9	0 33 45.77	. .	34 6 40.1	+ 0.7
	47	β Ceti		9	37 55.21	+ 2.11	− **19.86**	57 25 53.92	+ 4 39.99	+ 1 31.6	0 37 37.53	. .	108 38 26.7	+ 1.3
	48	Venus I, S.		9	52 45.24	+ 1.42	− 19.79	31 39 49.85	+ 3 59.19	+ 36.2	0 52 26.87	+ 0.78	82 50 46.4	. .
	49	β Andromedæ		9	3 24.09	+ 0.61	− **19.69**	3 49 49.15	+ 4 14.58	+ 4.0	1 3 4.91	. .	55 0 28.9	+ 2.2
	50	Jupiter I, S.		6	8 4.43	+ 1.45	− 19.79	32 47 54.72	+ 5 35.12	+ 37.9	1 7 46.09	+ 1.13	84 0 28.9	. .

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	29.43	58.6	56.5
3	29.43	58.3	58.3
4	29.42	57.4	59.6
6	29.43	57.7	59.8
7	29.39	58.1	59.0
13	29.35	60.0	59.0
19	29.38	58.4	57.6
20	29.37	57.8	56.8
22	29.37	57.2	55.9
24	30.22	28.5	27.5
29	30.28	32.0	30.8
32	30.28	33.8	31.8
34	30.31	34.5	32.0
35	30.09	35.6	35.1
37	30.09	38.3	38.2
38	30.07	41.3	41.2
40	30.06	45.3	47.5
41	30.05	45.2	49.8
43	30.05	46.7	51.0
45	30.05	49.3	49.3
47	30.06	48.3	49.2

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

3, 7, 34.	Three bisections.	″ 1 to 23+35.92
10, 20, 21, 22, 32, 35, 36, 38, 40, 41, 48.	Four bisections.	24 to 34+36.67
19.	Five bisections.	35 to 50+37.61

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
5	− 7.1	− 16 13.5	. .	− 16 20.6
6	− 7.0	+ 16 13.5	. .	+ 16 6.5
7	− 5.5	. .	− 0.1	− 5.6
15	− 6.4	− 12.7	. .	− 19.1
16	− 6.4	+ 12.7	− 1.1	+ 5.2
17	− 0.9	− 15.2	. .	− 16.1
18	− 0.9	+ 15.3	. .	+ 14.4
28	− 7.0	+ 16 13.2	. .	+ 16 6.2
29	− 7.0	− 16 13.2	. .	− 16 20.2
30	− 5.6	. .	− 0.2	− 5.8
33	− 6.4	− 11.4	. .	− 17.8
42	− 6.9	− 16 12.3	. .	− 16 19.2
43	− 6.9	+ 16 12.4	. .	+ 16 5.5
48	− 6.3	− 11.7	. .	− 18.0
50	− 0.9	− 15.5	. .	− 16.4

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	hr. m. s.	s.	° ′ ″	″
February 16, R.	1	Jupiter II, N.	.	5	8 6.70	+ 1.45	— 19.79	32 47 54.72	+ 5 4.13	+ 37.9	1 7 48.36	— 1.14	83 59 57.9	. .
	2	Polaris	.	7	16 4.56	—56.67	— 19.80	310 9 49.70	+ 4 8.16	— 1 9.3	1 14 48.09	. .	1 19 9.8	+ 2.1
	3	α Arietis	.	9	0 47.88	+ 1.00	— **19.79**	15 55 52.55	+ 3 26.32	+ 16.9	2 0 29.07	. .	67 5 57.0	+ 2.0
	4	ε Orionis (R)	.	.	. . .	. .	. .	139 45 54.08	+ 4 26.41	— 51.2	. . . .	. .	91 16 51.9	0.0
	5	ε Orionis	.	.	. . .	. .	. .	40 5 54.02	+ 3 44.17	+ 51.2	5 30 . .	. .	91 16 50.6	— 1.3
	6	B. A. C. 1849 (R)	.	.	. . .	. .	. .	200 53 47.20	+ 3 56.69	+ 23.3	. . . .	. .	30 8 14.0	+11.0
	7	B. A. C. 1849	.	.	. . .	. .	. .	338 57 53.52	+ 4 27.93	— 23.3	5 44 . .	. .	30 8 19.3	+11.0
	8	Lalande 11344	9.2	9	54 29.01	+ 0.75	— 19.83	10 37 52.08	+ 3 21.89	+ 11.5	5 54 9.93	— 2.66	61 47 46.7	+ 1.2
	9	Lalande 11380	8.8	9	55 25.89	+ 0.75	— 19.83	10 37 52.08	+ 3 23.41	+ 11.5	5 55 6.81	— 2.67	61 47 48.2	+ 1.2
	10	ν Orionis	.	9	1 7.83	+ 1.15	— **19.84**	24 1 50.20	+ 4 35.77	+ 27.3	6 0 49.15	. .	75 13 14.5	+ 3.4
	11	δ Ursæ Min., S. P.	.	9	10 15.28	+25.30	— 19.84	305 27 53.22	+ 3 33.31	— 1 25.3	18 10 20.74	. .	356 36 22.4	+ 3.2
	12	B. A. C. 2069	.	9	22 32.54	— 5.25	— 19.85	320 43 51.18	+ 5 20.16	— 49.8	6 22 7.44	— 8.57	11 54 42.7	+11.6
	13	γ Geminorum	.	9	31 11.61	+ 1.09	— **19.86**	22 17 49.52	+ 5 33.05	+ 25.2	6 30 52.85	. .	73 30 9.0	+ 2.2
	14	26 Geminorum	.	9	35 50.07	+ 1.05	— 19.85	21 3 51.28	+ 3 53.62	+ 23.6	6 35 31.27	— 2.65	72 14 29.7	— 4.4
	15	51 Cephei	.	9	45 37.34	—27.85	— 19.86	311 37 54.22	+ 3 3.20	— 1 8.7	6 44 49.63	. .	2 46 9.9	+ 2.3
	16	ε Canis Majoris	.	9	54 16.71	+ 2.36	— **19.85**	67 35 52.62	+ 4 13.86	+ 2 28.1	6 53 59.20	. .	118 48 55.8	+ 0.3
	17	Lalande 13799	.	9	1 44.63	+ 1.33	— 19.87	31 9 48.75	+ 3 57.96	+ 37.1	7 1 26.09	— 2.59	82 20 45.0	— 8.4
	18	VII, 3¹, S.	8.2	5	12 41.08	+ 2.42	— 19.88	69 27 53.32	+ 5 0.52	+ 2 43.1	7 12 23.62	— 2.33	120 41 58.1	—15.7
	19	VII, 3², N.	6.8	6	12 41.20	+ 2.42	— 19.88	69 27 53.32	+ 4 20.94	+ 2 43.0	7 12 23.74	— 2.33	120 41 18.5	—15.7
	20	Stone 3672	6.5	6	24 36.95	+ 2.45	— 19.89	70 21 53.30	+ 5 24.42	+ 2 51.4	7 24 19.51	— 2.39	121 36 30.3	—15.9
	21	Stone 3673	7.7	5	24 37.44	+ 2.45	— 19.89	70 21 53.30	+ 5 20.23	+ 2 51.4	7 24 20.00	— 2.39	121 36 26.1	—15.9
	22	B. A. C. 2543	.	.	. . .	. .	. .	76 43 49.38	+ 7 51.75	+ 4 17.9	7 35 . .	. .	128 2 20.2	—16.4
	23	B. A. C. 2546	.	.	. . .	. .	. .	76 43 49.38	+ 4 58.94	+ 4 17.0	7 36 . .	. .	127 59 26.5	—16.4
	24	λ Ursæ Min., S. P.	.	4	40 42.02	+78.68	— 19.90	307 47 56.70	+ 3 45.55	— 1 18.8	19 41 40.80	. .	358 56 44.6	+ 4.4
	25	B. A. C. 2743	.	9	5 0.39	+ 2.57	— 19.92	73 51 48.02	+ 5 3.61	+ 3 30.8	8 4 43.04	— 2.56	125 6 43.6	—16.1
	26	B. A. C. 2777	6.2	6	9 50.20	+ 2.61	— 19.92	74 43 51.65	+ 4 7.65	+ 3 42.9	8 9 32.89	— 2.59	125 58 3.4	—16.1
	27	Brisbane 1942	7.4	5	9 50.68	+ 2.61	— 19.92	74 43 51.65	+ 5 12.18	+ 3 43.2	8 9 33.37	— 2.59	125 59 8.2	—16.1
	28	O. Arg. S. 8457	8.5	4	18 0.13	+ 2.33	— 19.92	67 21 48.30	+ 5 11.50	+ 2 27.1	8 17 42.54	— 2.60	118 35 48.1	—15.7
	29	η Cancri	.	9	26 11.50	+ 0.95	— **19.85**	17 57 53.52	+ 4 58.01	+ 20.0	8 25 52.52	. .	69 9 32.7	+ 1.4
	30	Weisse (2) 786	9.5	9	33 24.17	+ 0.95	— 19.94	17 51 47.80	+ 3 0.90	+ 19.9	8 33 5.18	— 3.03	69 1 29.8	—11.0
	31	ε Hydræ	.	9	40 49.93	+ 1.34	— **20.02**	31 57 54.32	+ 4 5.35	+ 38.5	8 40 31.33	. .	83 8 59.4	+ 2.0
	32	B. A. C. 3336	.	9	40 14.81	+ 1.32	— 19.95	31 33 50.92	+ 3 59.92	+ 37.9	9 39 56.18	— 2.87	82 44 49.9	—15.4
	33	D. M. +16°, 2042	10.5	9	46 14.90	+ 1.09	— 19.95	22 47 53.05	+ 0 51.53	+ 25.9	9 45 56.04	— 2.96	73 55 31.7	—15.3
	34	Weisse (2) 1047	9.2	9	50 50.72	+ 1.04	— 19.95	21 11 47.08	+ 4 27.22	+ 24.0	9 50 31.81	— 2.98	72 22 59.5	—15.5
	35	Weisse (2) 1236	.	9	59 35.12	+ 1.07	— 19.96	22 29 47.18	+ 3 34.99	+ 25.6	9 59 16.23	— 2.95	73 40 9.0	—15.9
	36	Lalande 19809	8.8	9	4 52.97	+ 1.11	— 19.96	23 43 52.12	+ 5 32.40	+ 27.2	10 4 34.12	— 2.93	74 56 12.9	—16.2
	37	Piazzi X, 32	.	9	10 52.19	+ 2.88	— 19.96	81 13 53.12	+ 4 42.27	+ 6 26.8	10 10 35.11	— 3.01	132 31 23.4	—12.9
	38	Anonymous	13	1	24 15.66	+ 1.05	— 19.96	21 47 54.25	+ 5 21.04	+ 24.8	10 23 56.75	— 2.92	73 0 1.3	—17.0
	39	X, 11	.	9	32 37.93	+ 2.56	— 19.97	73 51 48.38	+ 4 40.61	+ 3 31.8	10 32 20.52	— 2.92	125 6 22.9	—13.0
	40	B. A. C. 3670	7.2	9	37 24.61	— 0.06	— 19.97	351 59 46.95	+ 4 24.58	— 8.6	10 37 4.58	— 3.57	43 10 24.1	—17.4
	41	D. M. +11°, 2286	.	9	44 20.51	+ 1.20	— 19.97	27 5 51.80	+ 4 54.92	+ 31.7	10 44 1.74	— 2.84	78 17 39.6	—17.4
	42	Uranus I, C.	.	6	56 17.47	+ 1.30	— 19.97	31 5 52.42	+ 4 57.62	+ 37.4	10 55 58.80	+ 0.13	82 17 48.6	. .
	43	Uranus II	.	5	56 17.74	+ 1.30	— 19.97	31 6 . .	. .	. .	10 55 59.07	— 0.14	. . . .	. .
	44	δ Leonis	.	9	8 8.53	+ 0.93	— **19.89**	17 37 59.40	+ 5 7.82	+ 19.8	11 7 49.49	. .	68 49 48.2	+ 1.0
	45	τ Leonis	.	9	22 10.36	+ 1.42	— **20.03**	35 17 55.40	+ 4 35.86	+ 43.9	11 21 51.80	. .	86 29 36.4	+ 0.2
	46	λ Draconis	.	2	24 46.72	— 2.49	— 19.98	328 50 . .	. .	. .	11 24 24.25	. .	20 1 . .	. .
	47	υ Leonis	.	9	31 12.54	+ 1.51	— **20.01**	38 57 58.80	+ 5 8.73	+ 50.1	11 30 57.07	. .	90 10 18.8	+ 1.0
	48	γ Cephei, S. P.	.	9	34 37.36	+ 7.67	— 19.99	295 50 . .	. .	. .	23 34 25.04	. .	346 58 . .	. .
	49	B. A. C. 4006	.	9	45 18.26	+ 1.63	— 20.00	43 27 54.45	+ 5 20.39	+ 58.8	11 44 59.89	— 2.65	94 40 34.8	—16.2
	50	B. A. C. 4063	.	9	57 51.24	+ 1.63	— 20.00	43 37 56.70	+ 3 58.94	+ 59.1	11 57 32.87	— 2.62	94 49 15.9	—16.1

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	30.08	47.5	47.5
3	30.10	46.9	45.9
10	30.28	35.5	32.8
16	30.30	33.6	31.0
20	30.31	32.9	30.2
31	30.32	31.6	29.1
32	30.34	32.3	28.8
37	30.34	30.8	27.8
41	30.34	30.2	27.2
49	30.34	29.5	26.8

For summary of the constants of reduction see page 3.

7, 10. One bisection.
12, 24. Three bisections.
3, 42. Four bisections.
2, 11, 15. Five bisections.

ZENITH-POINT CORR.

1 to 3 + 37″.61
4 to 50 + 38.28

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
1	— 0.9	+ 15.5	. .	+ 14.6
42	— 0.3	. .	. .	— 0.3

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
February 16, R.	1	Moon II, S.		5	7 3.32	+ 1.69	− 20.01	45 47 51.42	+ 3 1.02	+ 1 3.7	12 6 45.00	−63.58	96 58 17.3	. .
	2	14 Virginis		9	13 33.62	+ 1.72	− 20.01	47 3 51.45	+ 4 5.36	+ 1 6.6	12 13 15.33	− 2.58	98 15 24.6	−15.2
	3	B. A. C. 4201		9	22 9.78	+ 1.71	− 20.02	46 49 47.35	+ 4 4.71	+ 1 6.1	12 21 51.47	− 2.56	98 1 19.4	−15.1
	4	B. A. C. 4271 (R)			. . . .	. .	. .	151 55 54.55	+ 4 10.10	− 32.9	. . . .	. .	79 6 49.5	−19.0
	5	B. A. C. 4271			. . . .	. .	. .	27 55 52.55	+ 4 3.43	+ 32.9	12 36 . .	. .	79 6 50.1	−19.0
	6	32² Camelop. (R)			. . . .	. .	. .	225 3 49.80	+ 4 42.07	+ 1 2.2	. . . .	. .	5 56 47.1	− 1.6
	7	32² Camelop.			. . . .	. .	. .	314 45 53.85	+ 5 35.39	− 1 2.2	12 48 . .	. .	5 56 48.2	− 0.5
	8	θ Virginis		9	4 8.16	+ 1.62	**− 20.05**	43 41 49.00	+ 5 17.94	+ 59.4	13 3 29.73	. .	94 54 27.5	+ 0.3
	9	Polaris, S. P.		5	14 1.37	+64.31	− 20.06	307 31 46.22	+ 4 5.96	− 1 20.4	1 14 45.62	. .	358 40 53.0	+ 0.8
	10	α Virginis		9	19 16.14	+ 1.77	**− 20.06**	49 19 48.00	+ 5 16.33	+ 1 12.4	13 18 57.85	. .	100 32 37.9	+ 1.4
W.	11	B. A. C. 6690		9	26 14.94	+ 0.75	− 20.29	11 5 51.18	+ 5 1.33	+ 12.2	19 25 55.40	− 0.04	62 17 25.9	− 7.1
	12	γ Aquilæ		9	40 55.53	+ 1.28	**− 20.35**	28 29 49.28	+ 3 50.86	+ 33.6	19 40 36.52	. .	79 40 34.9	− 1.7
	13	α Aquilæ		9	45 18.01	+ 1.33	**− 20.36**	30 15 50.42	+ 3 54.52	+ 36.1	19 44 59.05	. .	81 26 42.2	− 3.1
	14	γ Cygni		9	18 16.96	+ 0.30	**− 20.16**	358 55 51.22	+ 5 17.04	− 1.1	20 17 56.97	. .	50 7 28.4	− 0.6
	15	γ Cygni		9	37 42.16	+ 0.08	− 20.30	353 57 52.60	+ 4 33.43	− 6.4	20 37 21.94	. .	45 8 40.8	− 1.3
17	16	Sun I, S.		9	4 39.83	+ 1.89	− 20.31	50 49 34.50	+ 3 57.85	+ 1 15.2	22 4 21.41	+66.30	102 1 8.8	. .
	17	Sun II, N.		9	6 52.44	+ 1.89	− 20.31	50 17 54.80	+ 3 11.46	+ 1 13.7	22 6 34.02	−66.31	101 28 41.2	. .
	18	α Andromedæ		9	2 34.27	+ 0.78	**− 20.40**	10 23 49.28	+ 3 29.35	+ 11.2	0 2 14.72	. .	61 33 51.0	0.0
	19	Venus S.			. . . .	. .	. .	31 9 50.10	+ 4 31.90	+ 36.9	0 56 . .	. .	82 21 20.1	. .
	20	β Andromedæ		9	3 24.74	+ 0.54	**− 20.28**	3 49 46.25	+ 4 16.54	+ 4.1	1 3 4.94	. .	55 0 28.1	+ 1.3
	21	Polaris		9	16 7.40	−60.36	− 20.35	310 9 47.42	+ 4 12.11	− 1 11.8	1 14 46.69	. .	1 19 8.9	+ 1.0
	22	α Arietis		9	0 48.46	+ 0.96	**− 20.35**	15 55 48.75	+ 3 27.62	+ 17.4	2 0 29.07	. .	67 5 55.0	− 0.1
	23	β Tauri		9	19 8.28	+ 0.74	**− 20.37**	10 17 51.20	+ 5 15.68	+ 11.2	5 18 48.56	. .	61 29 39.3	+ 1.8
	24	ε Orionis (R)			. . . .	. .	. .	139 45 48.45	+ 4 32.60	− 51.8	. . . .	. .	91 16 52.0	+ 0.1
	25	ε Orionis			. . . .	. .	. .	40 5 49.10	+ 3 51.61	+ 51.8	5 30 . .	. .	91 16 53.7	+ 1.8
	26	α Columbæ		4	35 40.18	+ 2.61	**− 20.56**	72 53 49.42	+ 5 4.34	+ 3 18.3	5 35 22.33	. .	124 8 33.3	− 0.2
	27	D.M.+31°, 1126		9	45 9.29	+ 0.63	− 20.46	7 3 46.20	+ 4 28.09	+ 7.7	5 44 49.46	− 2.68	58 14 43.2	+ 3.0
	28	α Orionis		9	49 5.12	+ 1.36	**− 20.46**	31 25 59.32	+ 4 8.68	+ 37.6	5 48 46.02	. .	82 37 6.8	+ 2.2
	29	B. A. C. 1914		9	53 57.82	− 0.21	− 20.46	348 55 51.58	+ 3 47.40	− 12.0	5 53 37.15	− 3.36	40 5 48.2	+ 7.8
	30	δ Urs. Min., S. P.		8	10 16.04	+26.03	− 20.46	305 27 53.78	+ 3 32.33	− 1 26.0	18 10 21.61	. .	356 36 21.3	+ 2.3
	31	B. A. C. 2069		9	22 33.31	− 5.40	− 20.46	320 43 49.88	+ 5 20.67	− 50.1	6 22 7.45	− 8.50	11 54 41.7	+11.8
	32	γ Geminorum		9	31 12.16	+ 1.11	**− 20.44**	22 17 52.65	+ 5 28.59	+ 25.3	6 30 52.81	. .	73 30 7.7	+ 0.9
	33	13 Lyncis		9	37 6.14	− 0.76	− 20.46	341 31 46.60	+ 4 43.09	− 20.5	6 36 44.92	− 4.13	32 42 30.4	+ 6.1
	34	51 Cephei		9	45 38.48	−28.64	− 20.46	311 37 52.15	+ 3 4.99	− 1 9.1	6 44 49.38	. .	2 46 9.2	+ 1.8
	35	Weisse (2) 955		9	34 13.36	+ 0.91	− 20.46	15 31 48.18	+ 4 9.26	+ 17.2	7 33 53.81	− 2.95	66 42 35.8	− 6.8
	36	B. A. C. 2580		9	41 21.19	+ 2.75	− 20.46	76 23 52.20	+ 6 40.22	+ 4 12.3	7 41 3.48	− 2.45	127 41 5.9	−16.6
	37	85 Geminorum		9	49 5.52	+ 1.00	− 20.46	18 37 51.00	+ 3 46.58	+ 20.9	7 48 46.06	− 2.93	69 48 19.7	− 8.4
	38	B. A. C. 2699		9	58 46.21	+ 2.53	− 20.46	70 53 50.90	+ 4 57.37	+ 2 57.3	7 58 28.28	− 2.52	122 8 6.8	−16.2
	39	B. A. C. 2762		9	7 26.86	+ 2.82	− 20.46	78 1 47.30	+ 3 16.21	+ 4 45.5	8 7 9.22	− 2.58	129 16 10.2	−16.5
	40	M. Z. 230, 41		9	13 2.00	+ 2.51	− 20.46	70 27 55.30	+ 2 13.97	+ 2 52.8	8 12 44.05	− 2.58	121 39 23.3	−16.1
	41	B. A. C. 2900			. . . .	. .	. .	78 17 52.88	+ 4 52.50	+ 4 52.8	8 31 . .	. .	129 33 59.4	−16.2
	42	B. A. C. 2943		9	38 30.01	− 1.96	− 20.46	331 41 49.40	+ 3 54.98	− 33.1	8 38 7.59	− 5.84	22 51 32.5	− 4.1
	43	B. A. C. 3012		9	45 43.59	+ 2.80	− 20.46	77 27 53.78	+ 3 30.50	+ 4 33.1	8 45 25.93	− 2.73	128 42 18.6	−15.9
	44	O. Arg. N. 9450.		9	50 37.30	− 0.13	− 20.46	350 19 50.30	+ 3 43.87	− 10.5	8 50 16.71	− 3.93	41 29 44.9	− 8.2
	45	ι Ursæ Majoris		9	51 27.88	− 0.13	− 20.46	350 19 50.30	+ 3 41.38	− 10.5	8 51 7.29	. .	41 29 42.4	+ 1.8
	46	B. A. C. 3116		9	4 24.62	− 3.40	− 20.46	325 23 50.05	+ 4 13.63	− 42.4	9 4 0.76	− 7.40	16 33 42.5	− 6.0
19, S.	47	Lalande 9400		9	54 15.76	+ 1.36	− 21.13	35 41 48.35	+ 4 44.96	+ 43.1	4 53 55.99	− 1.90	86 53 37.6	− 3.8
	48	β Tauri		9	19 9.07	+ 0.66	**− 21.12**	10 17 51.68	+ 5 14.79	+ 11.0	5 18 48.59	. .	61 29 38.7	+ 1.2
	49	δ Orionis		9	26 17.46	+ 1.45	**− 21.19**	39 11 48.10	+ 4 27.01	+ 49.1	5 25 57.70	. .	90 23 25.4	+ 0.2
	50	ε Orionis		8	30 32.25	+ 1.47	**− 21.17**	40 5 51.62	+ 3 48.32	+ 50.6	5 30 12.57	. .	91 16 51.7	− 0.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
4	30.35	28.8	26.3
10	30.35	28.3	25.7
11	30.48	29.4	28.9
15	30.48	32.4	31.9
17	30.46	35.2	33.8
18	30.46	42.1	36.3
22	30.45	38.8	37.3
23	30.44	34.7	32.3
30	30.43	34.0	31.0
41	30.41	31.9	28.9
46	30.40	31.6	28.8
47	30.14	41.0	39.1

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

5, 40, 44, 45.	One bisection.	1 to 10 + 38″.28
30, 34.	Three bisections.	11 to 22 + 34.53
11, 12, 13, 15, 18, 49.	Four bisections.	23 to 46 + 37.52
9, 21.	Five bisections.	47 to 50 + 37.09

46. Temperature and barom. observed at 9^h 35^m.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
1	−40 1.0	− 15 17.4	. .	− 55 18.4
16	− 6.9	− 16 13.8	. .	− 16 20.7
17	− 6.9	+ 16 13.8	. .	+ 16 6.9
19	− 6.3	− 11.8	. .	− 18.1

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
February 19, S.	1	B. A. C. 1849 (R)	.	.	. . .	. .	. .	200 53 47.28	+ 3 56.30	+ 23.0	. . . .	. .	30 8 14.6	+11.3
	2	B. A. C. 1849	.	.	. . .	. .	. .	338 57 52.38	+ 4 27.94	— 23.0	5 44 . .	. .	30 8 18.5	+11.3
	3	B. A. C. 1939 (R)	.	.	. . .	. .	. .	161 9 46.50	+ 5 15.40	— 20.4	. . . .	. .	69 51 39.7	— 1.5
	4	B. A. C. 1939	.	.	. . .	. .	. .	18 39 46.18	+ 5 11.92	+ 20.4	5 57 . .	. .	69 51 39.7	— 1.5
	5	δ Ursæ Min., S. P.	.	7	10 17.96	+24.40	— 21.18	305 27 51.90	+ 3 30.51	— 1 24.2	18 10 21.18	. .	356 36 19.4	+ 0.8
	6	Lalande 12494	.	9	25 32.61	+ 1.15	— 21.19	27 11 46.40	+ 3 56.05	+ 31.0	6 25 12.57	— 2.47	78 22 34.6	— 5.6
	7	γ Geminorum	.	9	31 12.94	+ 1.02	**— 21.15**	22 17 54.60	+ 5 27.30	+ 24.8	6 30 52.77	. .	73 30 7.9	+ 1.1
	8	Stone 3158	.	6	38 34.72	+ 2.61	— 21.20	77 2 . .	. .	. .	6 38 16.13	— 2.08	128 17 . .	. .
	9	Stone 3159	.	5	38 35.48	+ 2.61	— 21.20	77 2 . .	. .	. .	6 38 16.89	— 2.08	128 17 . .	. .
	10	B. A. C. 2246	.	9	45 44.86	+ 2.38	— 21.20	71 7 57.82	+ 5 22.09	+ 2 55.8	6 45 26.04	— 2.15	122 22 36.9	—16.3
	11	B. A. C. 2288	.	8	53 23.06	+ 2.48	— 21.21	74 5 54.48	+ 5 29.64	+ 3 30.3	6 53 4.33	— 2.18	125 21 15.6	—16.7
	12	Stone 3320	.	8	53 40.59	+ 2.48	— 21.21	74 5 54.48	+ 2 53.13	+ 3 29.8	6 53 21.86	— 2.18	125 18 38.6	—16.7
	13	B. A. C. 2315	.	9	57 52.09	+ 2.48	— 21.21	74 5 54.48	+ 7 10.26	+ 3 30.8	6 57 33.36	— 2.20	125 22 56.8	—16.8
	14	δ Draconis, S. P.	.	9	12 45.59	+ 4.64	— 21.22	286 19 46.08	+ 4 14.27	— 3 22.9	19 12 29.01	. .	337 26 58.7	+ 1.4
	15	Piazzi VII, 67	.	9	18 58.36	— 2.15	— 21.22	330 7 55.88	+ 3 51.88	— 34.6	7 18 34.99	. .	21 17 34.4	+ 1.9
	16	η Cancri	.	9	26 12.92	+ 0.88	**— 21.21**	17 58 . .	. .	. .	8 25 52.53	. .	69 10 . .	. .
	17	ε Hydræ	.	9	40 51.33	+ 1.26	**— 21.34**	31 57 53.90	+ 4 6.21	+ 38.1	8 40 31.31	. .	83 8 59.4	+ 1.9
	18	κ Cancri	.	9	1 41.13	+ 1.14	**— 21.29**	27 39 49.38	+ 4 45.24	+ 32.1	9 1 20.98	. .	78 51 27.9	+ 0.6
21, W.	19	B. A. C. 2069	.	9	22 35.48	— 5.14	— 23.02	320 43 49.92	+ 5 17.34	— 49.1	6 22 7.32	— 8.20	11 54 39.4	+12.4
	20	γ Geminorum	.		31 14.80	+ 1.02	**— 23.04**	22 17 52.28	+ 5 31.20	+ 24.9	6 30 52.79	. .	73 30 9.6	+ 2.8
	21	α Canis Majoris	.	9	40 17.58	+ 1.89	**— 23.08**	55 21 48.80	+ 3 53.16	+ 1 27.4	6 39 56.44	. .	106 33 30.6	+ 0.9
	22	51 Cephei	.	7	45 37.63	—27.16	— 23.04	311 37 23.55	+ 2 59.70	— 1 7.7	6 44 47.43	. .	2 46 6.7	0.0
	23	a^2 Geminorum	.		. . .	. .	. .	6 39 49.92	+ 4 53.40	+ 7.1	7 27 . .	. .	57 51 11.6	+ 0.5
	24	Weisse (2) 955	.	9	34 16.08	+ 0.83	— 23.09	15 31 46.98	+ 4 10.98	+ 16.9	7 33 53.82	— 2.92	66 42 36.1	— 6.6
	25	β Geminorum	.	9	38 27.37	+ 0.68	**— 23.04**	10 29 47.48	+ 5 2.17	+ 11.3	7 38 4.96	. .	61 41 22.1	+ 0.4
	26	φ Geminorum	.	9	46 38.21	+ 0.72	**— 23.09**	11 43 48.80	+ 5 23.00	+ 12.7	7 46 15.83	. .	62 55 45.7	0.0
	27	B. A. C. 2649	.	9	52 9.02	+ 1.01	— 23.10	21 59 48.95	+ 3 18.75	+ 24.5	7 51 46.93	— 2.85	73 9 53.4	— 9.2
	28	Weisse (2) 1566	.	9	59 0.42	+ 0.28	— 23.11	359 27 54.48	+ 4 6.27	— 0.5	7 58 37.59	— 3.43	50 38 21.5	— 4.8
	29	B. A. C. 2772	.	9	8 25.27	+ 2.56	— 23.12	75 23 51.60	+ 4 14.22	+ 3 49.7	8 8 4.71	— 2.53	126 38 16.7	—17.4
	30	Lalande 16413	.	9	17 53.84	+ 0.43	— 23.13	3 25 51.60	+ 4 10.41	+ 3.7	8 17 31.14	— 3.34	54 36 26.9	— 7.1
	31	Anonymous	8.8	9	24 39.84	+ 1.28	— 23.13	31 47 56.48	+ 4 23.30	+ 37.6	8 24 17.99	— 2.79	82 59 18.6	—12.7
	32	B. A. C. 2933	.	9	35 12.34	+ 2.54	— 23.14	74 57 53.90	+ 3 39.47	+ 3 43.0	8 34 51.74	— 2.65	126 11 37.6	—17.1
	33	B. A. C. 3012	.	9	45 46.27	+ 2.63	— 23.15	77 27 55.90	+ 3 33.45	+ 4 27.9	8 45 25.75	— 2.71	128 42 18.5	—17.0
	34	O. Arg. N. 9450	.	9	50 40.17	— 0.18	— 23.16	350 19 50.52	+ 3 43.32	— 10.3	8 50 16.83	— 3.92	41 29 44.7	— 7.5
	35	ι Ursæ Majoris	.	9	51 30.52	— 0.18	— 23.16	350 19 50.52	+ 3 40.16	— 10.3	8 51 7.18	. .	41 29 41.6	+ 1.7
	36	B. A. C. 3116	.	9	4 27.62	— 3.27	— 23.17	325 23 51.98	+ 4 8.39	— 41.7	9 4 1.18	— 7.36	16 33 39.9	— 4.9
	37	B. A. C. 3192^1	.	9	16 5.89	+ 2.34	— 23.18	70 3 49.75	+ 2 41.77	+ 2 46.3	9 15 45.05	— 2.77	121 15 39.0	—16.5
	38	Anonymous	.	9	17 31.56	+ 2.34	— 23.18	70 3 49.75	+ 4 46.75	+ 2 46.5	9 17 10.72	— 2.77	121 17 44.2	—16.5
	39	B. A. C. 3254^1	.	5	26 3.82	+ 2.35	— 23.19	70 7 57.52	+ 5 17.30	2 47.3	9 25 42.98	— 2.79	121 22 23.3	—16.4
	40	B. A. C. 3254^2	.	3	26 4.30	+ 2.35	— 23.19	70 7 57.52	+ 5 9.41	+ 2 47.3	9 25 43.46	— 2.79	121 22 15.4	—16.4
	41	B. A. C. 3262	.	5	26 50.58	+ 2.35	— 23.19	70 7 57.52	+ 4 4.98	+ 2 47.1	9 26 29.74	— 2.80	121 21 10.8	—16.3
	42	B. A. C. 3346 (R)	.	.	. . .	. .	. .	200 37 51.50	+ 3 47.75	+ 22.9	. . . .	. .	30 24 19.1	—10.7
	43	B. A. C. 3346	.	2	42 59.66	— 0.97	— 23.21	339 13 50.68	+ 4 33.21	— 22.9	9 42 35.48	— 4.67	30 24 22.2	—10.7
	44	B. A. C. 3415	.	.	. . .	. .	. .	30 11 47.18	+ 4 40.33	+ 35.4	9 54 . .	. .	81 23 24.1	—16.1
	45	α Leonis (R)	.	.	. . .	. .	. .	153 35 51.75	+ 3 35.95	— 30.1	. . . .	. .	77 27 23.6	+ 0.9
	46	α Leonis	.	.	. . .	. .	. .	26 15 48.78	+ 4 42.84	+ 30.1	10 2 . .	. .	77 27 22.9	+ 0.2
	47	l Leonis	.	9	43 25.10	+ 1.15	**— 23.25**	27 37 51.85	+ 5 3.97	+ 32.0	10 43 2.99	. .	78 49 49.0	— 0.4
	48	O. Arg. N. 11292	.	9	52 43.36	— 0.42	— 23.27	346 17 51.90	+ 5 10.69	— 14.7	10 52 19.67	— 3.83	37 29 9.1	—17.4
	49	δ Leonis	.	9	8 12.00	+ 0.88	**— 23.24**	17 37 51.60	+ 5 14.30	+ 19.5	11 7 49.59	. .	68 49 46.6	— 0.5
	50	δ Crateris	.	9	13 47.87	+ 1.81	**— 23.35**	52 55 53.92	+ 4 45.46	+ 1 20.7	11 13 26.39	. .	104 8 21.3	0.0

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
14	30.19	38.3	35.2
18	30.22	35.8	31.2
19	30.14	37.9	35.6
23	30.15	36.9	35.0
50	30.17	34.0	31.5

For summary of the constants of reduction see page 3.

35, 46. One bisection.

5, 22. Three bisections.

ZENITH-POINT CORR.

″

1 to 18 + 37.09

19 to 50 + 37.57

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
February 16, R.	1	Moon II, S.		5	7 3.32	+ 1.69	— 20.01	45 47 51.42	+ 3 1.02	+ 1 3.7	12 6 45.00	—63.58	96 58 17.3	. .
	2	14 Virginis		9	13 33.62	+ 1.72	— 20.01	47 3 51.45	+ 4 5.36	+ 1 6.6	12 13 15.33	— 2.58	98 15 24.6	—15.2
	3	B. A. C. 4201		9	22 9.78	+ 1.71	— 20.02	46 49 47.35	+ 4 4.71	+ 1 6.1	12 21 51.47	— 2.56	98 1 19.4	—15.1
	4	B. A. C. 4271 (R)		.	. . .	. .	. .	151 55 54.55	+ 4 10.10	— 32.9	. . . .	. .	79 6 49.5	—19.0
	5	B. A. C. 4271		.	. . .	. .	. .	27 55 52.55	+ 4 3.43	+ 32.9	12 36 . .	. .	79 6 50.1	—19.0
	6	32² Camelop. (R)		.	. . .	. .	. .	225 3 49.80	+ 4 42.07	+ 1 2.2	. . . .	. .	5 56 47.1	— 1.6
	7	32² Camelop.		.	. . .	. .	. .	314 45 53.85	+ 5 35.39	— 1 2.2	12 48 . .	. .	5 56 48.2	— 0.5
	8	θ Virginis		9	4 8.16	+ 1.62	— **20.05**	43 41 49.00	+ 5 17.94	+ 59.4	13 3 29.73	. .	94 54 27.5	+ 0.3
	9	Polaris, S. P.		5	14 1.37	+64.31	— 20.06	307 31 46.22	+ 4 5.96	— 1 20.4	1 14 45.62	. .	358 40 53.0	+ 0.8
	10	α Virginis		9	19 16.14	+ 1.77	— **20.06**	49 19 48.00	+ 5 16.33	+ 1 12.4	13 18 57.85	. .	100 32 37.9	+ 1.4
W.	11	B. A. C. 6690		9	26 14.94	+ 0.75	— 20.29	11 5 51.18	+ 5 1.33	+ 12.2	19 25 55.40	— 0.04	62 17 25.9	— 7.1
	12	γ Aquilæ		9	40 55.53	+ 1.28	— **20.35**	28 29 49.28	+ 3 50.86	+ 33.6	19 40 36.52	. .	79 40 34.9	— 1.7
	13	α Aquilæ		9	45 18.01	+ 1.33	— **20.36**	30 15 50.42	+ 3 54.52	+ 36.1	19 44 59.05	. .	81 26 42.2	— 3.1
	14	γ Cygni		9	18 16.96	+ 0.30	— **20.16**	358 55 51.22	+ 5 17.04	— 1.1	20 17 56.97	. .	50 7 28.4	— 0.6
	15	ι Cygni		9	37 42.16	+ 0.08	— 20.30	353 57 52.60	+ 4 33.43	— 6.4	20 37 21.94	. .	45 8 40.8	— 1.3
17	16	Sun I, S.		9	4 39.83	+ 1.89	— 20.31	50 49 34.50	+ 3 57.85	+ 1 15.2	22 4 21.41	+66.30	102 1 8.8	. .
	17	Sun II, N.		9	6 52.44	+ 1.89	— 20.31	50 17 54.80	+ 3 11.46	+ 1 13.7	22 6 34.02	—66.31	101 28 41.2	. .
	18	α Andromedæ		9	2 34.27	+ 0.78	— **20.40**	10 23 49.28	+ 3 29.35	+ 11.2	0 2 14.72	. .	61 33 51.0	0.0
	19	Venus S.		.	. . .	. .	. .	31 9 50.10	+ 4 31.90	+ 36.9	0 56 . .	. .	82 21 20.1	. .
	20	β Andromedæ		9	3 24.74	+ 0.54	— **20.28**	3 49 46.25	+ 4 16.54	+ 4.1	1 3 4.94	. .	55 0 28.1	+ 1.3
	21	Polaris		9	16 7.40	—60.36	— 20.35	310 9 47.42	+ 4 12.11	— 1 11.8	1 14 46.69	. .	1 19 8.9	+ 1.0
	22	α Arietis		9	0 48.46	+ 0.96	— **20.35**	15 55 48.75	+ 3 27.62	+ 17.4	2 0 29.07	. .	67 5 55.0	— 0.1
	23	β Tauri		9	19 8.28	+ 0.74	— **20.37**	10 17 51.20	+ 5 15.68	+ 11.2	5 18 48.56	. .	61 29 39.3	+ 1.8
	24	ε Orionis (R)		.	. . .	. .	. .	139 45 48.45	+ 4 32.60	— 51.8	. . . .	. .	91 16 52.0	+ 0.1
	25	ε Orionis		.	. . .	. .	. .	40 5 49.10	+ 3 51.61	+ 51.8	5 30 . .	. .	91 16 53.7	+ 1.8
	26	α Columbæ		4	35 40.18	+ 2.61	— **20.56**	72 53 49.42	+ 5 4.34	+ 3 18.3	5 35 22.33	. .	124 8 33.3	— 0.2
	27	D.M.+31°, 1126		9	45 9.29	+ 0.63	— 20.46	7 3 46.20	+ 4 28.09	+ 7.7	5 44 49.46	— 2.68	58 14 43.2	+ 3.0
	28	α Orionis		9	49 5.12	+ 1.36	— **20.46**	31 25 59.32	+ 4 8.68	+ 37.6	5 48 46.02	. .	82 37 6.8	+ 2.2
	29	B. A. C. 1914		9	53 57.82	— 0.21	— 20.46	348 55 51.58	+ 3 47.40	— 12.0	5 53 37.15	— 3.36	40 5 48.2	+ 7.8
	30	δ Urs. Min., S. P.		8	10 16.04	+26.03	— 20.46	305 27 53.78	+ 3 32.33	— 1 26.0	18 10 21.61	. .	356 36 21.3	+ 2.3
	31	B. A. C. 2069		9	22 33.31	— 5.40	— 20.46	320 43 49.88	+ 5 20.67	— 50.1	6 22 7.45	— 8.50	11 54 41.7	+11.8
	32	γ Geminorum		9	31 12.16	+ 1.11	— **20.44**	22 17 52.65	+ 5 28.59	+ 25.3	6 30 52.81	. .	73 30 7.7	+ 0.9
	33	13 Lyncis		9	37 6.14	— 0.76	— 20.46	341 31 46.60	+ 4 43.09	— 20.5	6 36 44.92	— 4.13	32 42 30.4	+ 6.1
	34	51 Cephei		9	45 38.48	—28.64	— 20.46	311 37 52.15	+ 3 4.99	— 1 9.1	6 44 49.38	. .	2 46 9.2	+ 1.8
	35	Weisse (2) 955		9	34 13.36	+ 0.91	— 20.46	15 31 48.18	+ 4 9.26	+ 17.2	7 33 53.81	— 2.95	66 42 35.8	— 6.8
	36	B. A. C. 2580		9	41 21.19	+ 2.75	— 20.46	76 23 52.20	+ 6 40.22	+ 4 12.3	7 41 3.48	— 2.45	127 41 5.9	—16.6
	37	85 Geminorum		9	49 5.52	+ 1.00	— 20.46	18 37 51.00	+ 3 46.58	+ 20.9	7 48 46.06	— 2.93	69 48 19.7	— 8.4
	38	B. A. C. 2699		9	58 46.21	+ 2.53	— 20.46	70 53 50.90	+ 4 57.37	+ 2 57.3	7 58 28.28	— 2.52	122 8 6.8	—16.2
	39	B. A. C. 2762		9	7 26.86	+ 2.82	— 20.46	78 1 47.30	+ 3 16.21	+ 4 45.5	8 7 9.22	— 2.58	129 16 10.2	—16.5
	40	M. Z. 230, 41		9	13 2.00	+ 2.51	— 20.46	70 27 55.30	+ 2 13.97	+ 2 52.8	8 12 44.05	— 2.58	121 39 23.3	—16.1
	41	B. A. C. 2900		.	. . .	. .	. .	78 17 52.88	+ 4 52.50	+ 4 52.8	8 31 . .	. .	129 33 59.4	—16.2
	42	B. A. C. 2943		9	38 30.01	— 1.96	— 20.46	331 41 49.40	+ 3 54.98	— 33.1	8 38 7.59	— 5.84	22 51 32.5	— 4.1
	43	B. A. C. 3012		9	45 43.59	+ 2.80	— 20.46	77 27 53.78	+ 3 30.50	+ 4 33.1	8 45 25.93	— 2.73	128 42 18.6	—15.9
	44	O. Arg. N. 9450.		9	50 37.30	— 0.13	— 20.46	350 19 50.30	+ 3 43.87	— 10.5	8 50 16.71	— 3.93	41 29 44.9	— 8.2
	45	ι Ursæ Majoris		9	51 27.88	— 0.13	— 20.46	350 19 50.30	+ 3 41.38	— 10.5	8 51 7.29	. .	41 29 42.4	+ 1.8
	46	B. A. C. 3116		9	4 24.62	— 3.40	— 20.46	325 23 50.05	+ 4 13.63	— 42.4	9 4 0.76	— 7.40	16 33 42.5	— 6.0
19, S.	47	Lalande 9400		9	54 15.76	+ 1.36	— 21.13	35 41 48.35	+ 4 44.96	+ 43.1	4 53 55.99	— 1.90	86 53 37.6	— 3.8
	48	β Tauri		9	19 9.07	+ 0.66	— **21.12**	10 17 51.68	+ 5 14.79	+ 11.0	5 18 48.59	. .	61 29 38.7	+ 1.2
	49	δ Orionis		9	26 17.46	+ 1.45	— **21.19**	39 11 48.10	+ 4 27.01	+ 49.1	5 25 57.70	. .	90 23 25.4	+ 0.2
	50	ε Orionis		8	30 32.25	+ 1.47	— **21.17**	40 5 51.62	+ 3 48.32	+ 50.6	5 30 12.57	. .	91 16 51.7	— 0.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
4	30.35	28.8	26.3
10	30.35	28.3	25.7
11	30.48	29.4	28.9
15	30.48	32.4	31.9
17	30.46	35.2	33.8
18	30.46	42.1	36.3
22	30.45	38.8	37.3
23	30.44	34.7	32.3
30	30.43	34.0	31.0
41	30.41	31.9	28.9
46	30.40	31.6	28.8
47	30.14	41.0	39.1

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

5, 40, 44, 45. One bisection. 1 to 10 + 38″.28
30, 34. Three bisections. 11 to 22 + 34.53
11, 12, 13, 15, 18, 49. Four bisections. 23 to 46 + 37.52
9, 21. Five bisections. 47 to 50 + 37.09
46. Temperature and barom. observed at 9^h 35^m.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
1	—40 1.0	— 15 17.4	. .	— 55 18.4
16	— 6.9	— 16 13.8	. .	— 16 20.7
17	— 6.9	+ 16 13.8	. .	+ 16 6.9
19	— 6.3	— 11.8	. .	— 18.1

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
February 16, R.	1	Moon II, S.		5	7 3.32	+ 1.69	— 20.01	45 47 51.42	+ 3 1.02	+ 1 3.7	12 6 45.00	—63.58	96 58 17.3	. .
	2	14 Virginis		9	13 33.62	+ 1.72	— 20.01	47 3 51.45	+ 4 5.36	+ 1 6.6	12 13 15.33	— 2.58	98 15 24.6	—15.2
	3	B. A. C. 4201		9	22 9.78	+ 1.71	— 20.02	46 49 47.35	+ 4 4.71	+ 1 6.1	12 21 51.47	— 2.56	98 1 19.4	—15.1
	4	B. A. C. 4271 (R)			. . . .	. .	. .	151 55 54.55	+ 4 10.10	— 32.9	. . . .	. .	79 6 49.5	—19.0
	5	B. A. C. 4271			. . . .	. .	. .	27 55 52.55	+ 4 3.43	+ 32.9	12 36 . .	. .	79 6 50.1	—19.0
	6	32² Camelop. (R)			. . . .	. .	. .	225 3 49.80	+ 4 42.07	+ 1 2.2	. . . .	. .	5 56 47.1	— 1.6
	7	32² Camelop.			. . . .	. .	. .	314 45 53.85	+ 5 35.39	— 1 2.2	12 48 . .	. .	5 56 48.2	— 0.5
	8	θ Virginis		9	4 8.16	+ 1.62	— **20.05**	43 41 49.00	+ 5 17.94	+ 59.4	13 3 29.73	. .	94 54 27.5	+ 0.3
	9	Polaris, S. P.		5	14 1.37	+64.31	— 20.06	307 31 46.22	+ 4 5.96	— 1 20.4	1 14 45.62	. .	358 40 53.0	+ 0.8
	10	α Virginis		9	19 16.14	+ 1.77	— **20.06**	49 19 48.00	+ 5 16.33	+ 1 12.4	13 18 57.85	. .	100 32 37.9	+ 1.4
W.	11	B. A. C. 6690		9	26 14.94	+ 0.75	— 20.29	11 5 51.18	+ 5 1.33	+ 12.2	19 25 55.40	— 0.04	62 17 25.9	— 7.1
	12	γ Aquilæ		9	40 55.53	+ 1.28	— **20.35**	28 29 49.28	+ 3 50.86	+ 33.6	19 40 36.52	. .	79 40 34.9	— 1.7
	13	α Aquilæ		9	45 18.01	+ 1.33	— **20.36**	30 15 50.42	+ 3 54.52	+ 36.1	19 44 59.05	. .	81 26 42.2	— 3.1
	14	γ Cygni		9	18 16.96	+ 0.30	— **20.16**	358 55 51.22	+ 5 17.04	— 1.1	20 17 56.97	. .	50 7 28.4	— 0.6
	15	α Cygni		9	37 42.16	+ 0.08	— 20.30	353 57 52.60	+ 4 33.43	— 6.4	20 37 21.94	. .	45 8 40.8	— 1.3
17	16	Sun I, S.		9	4 39.83	+ 1.89	— 20.31	50 49 34.50	+ 3 57.85	+ 1 15.2	22 4 21.41	+66.30	102 1 8.8	. .
	17	Sun II, N.		9	6 52.44	+ 1.89	— 20.31	50 17 54.80	+ 3 11.46	+ 1 13.7	22 6 34.02	—66.31	101 28 41.2	. .
	18	α Andromedæ		9	2 34.27	+ 0.78	— **20.40**	10 23 49.28	+ 3 29.35	+ 11.2	0 2 14.72	. .	61 33 51.0	0.0
	19	Venus S.			. . . .	. .	. .	31 9 50.10	+ 4 31.90	+ 36.9	0 56 . .	. .	82 21 20.1	. .
	20	β Andromedæ		9	3 24.74	+ 0.54	— **20.28**	3 49 46.25	+ 4 16.54	+ 4.1	1 3 4.94	. .	55 0 28.1	+ 1.3
	21	Polaris		9	16 7.40	—60.36	— 20.35	310 9 47.42	+ 4 12.11	— 1 11.8	1 14 46.69	. .	1 19 8.9	+ 1.0
	22	α Arietis		9	0 48.46	+ 0.96	— **20.35**	15 55 48.75	+ 3 27.62	+ 17.4	2 0 29.07	. .	67 5 55.0	— 0.1
	23	β Tauri		9	19 8.28	+ 0.74	— **20.37**	10 17 51.20	+ 5 15.68	+ 11.2	5 18 48.56	. .	61 29 39.3	+ 1.8
	24	ε Orionis (R)			. . . .	. .	. .	139 45 48.45	+ 4 32.60	— 51.8	. . . .	. .	91 16 52.0	+ 0.1
	25	ε Orionis			. . . .	. .	. .	40 5 49.10	+ 3 51.61	+ 51.8	5 30 . .	. .	91 16 53.7	+ 1.8
	26	α Columbæ		4	35 40.18	+ 2.61	— **20.56**	72 53 49.42	+ 5 4.34	+ 3 18.3	5 35 22.33	. .	124 8 33.3	— 0.2
	27	D.M.+31°, 1126		9	45 9.29	+ 0.63	— 20.46	7 3 46.20	+ 4 28.09	+ 7.7	5 44 49.46	— 2.68	58 14 43.2	+ 3.0
	28	α Orionis		9	49 5.12	+ 1.36	— **20.46**	31 25 59.32	+ 4 8.68	+ 37.6	5 48 46.02	. .	82 37 6.8	+ 2.2
	29	B. A. C. 1914		9	53 57.82	— 0.21	— 20.46	348 55 51.58	+ 3 47.40	— 12.0	5 53 37.15	— 3.36	40 5 48.2	+ 7.8
	30	δ Urs. Min., S. P.		8	10 16.04	+26.03	— 20.46	305 27 53.78	+ 3 32.33	— 1 26.0	18 10 21.61	. .	356 36 21.3	+ 2.3
	31	B. A. C. 2069		9	22 33.31	— 5.40	— 20.46	320 43 49.88	+ 5 20.67	— 50.1	6 22 7.45	— 8.50	11 54 41.7	+11.8
	32	γ Geminorum		9	31 12.16	+ 1.11	— **20.44**	22 17 52.65	+ 5 28.59	+ 25.3	6 30 52.81	. .	73 30 7.7	+ 0.9
	33	13 Lyncis		9	37 6.14	— 0.76	— 20.46	341 31 46.60	+ 4 43.09	— 20.5	6 36 44.92	— 4.13	32 42 30.4	+ 6.1
	34	51 Cephei		9	45 38.48	—28.64	— 20.46	311 37 52.15	+ 3 4.99	— 1 9.1	6 44 49.38	. .	2 46 9.2	+ 1.8
	35	Weisse (2) 955		9	34 13.36	+ 0.91	— 20.46	15 31 48.18	+ 4 9.26	+ 17.2	7 33 53.81	— 2.95	66 42 35.8	— 6.8
	36	B. A. C. 2580		9	41 21.19	+ 2.75	— 20.46	76 23 52.20	+ 6 40.22	+ 4 12.3	7 41 3.48	— 2.45	127 41 5.9	—16.6
	37	85 Geminorum		9	49 5.52	+ 1.00	— 20.46	18 37 51.00	+ 3 46.58	+ 20.9	7 48 46.06	— 2.93	69 48 19.7	— 8.4
	38	B. A. C. 2699		9	58 46.21	+ 2.53	— 20.46	70 53 50.90	+ 4 57.37	+ 2 57.3	7 58 28.28	— 2.52	122 8 6.8	—16.2
	39	B. A. C. 2762		9	7 26.86	+ 2.82	— 20.46	78 1 47.30	+ 3 16.21	+ 4 45.5	8 7 9.22	— 2.58	129 16 10.2	—16.5
	40	M. Z. 230, 41		9	13 2.00	+ 2.51	— 20.46	70 27 55.30	+ 2 13.97	+ 2 52.8	8 12 44.05	— 2.58	121 39 23.3	—16.1
	41	B. A. C. 2900			. . . .	. .	. .	78 17 52.88	+ 4 52.50	+ 4 52.8	8 31 . .	. .	129 33 59.4	—16.2
	42	B. A. C. 2943		9	38 30.01	— 1.96	— 20.46	331 41 49.40	+ 3 54.98	— 33.1	8 38 7.59	— 5.84	22 51 32.5	— 4.1
	43	B. A. C. 3012		9	45 43.59	+ 2.80	— 20.46	77 27 53.78	+ 3 30.50	+ 4 33.1	8 45 25.93	— 2.73	128 42 18.6	—15.9
	44	O. Arg. N. 9450.		9	50 37.30	— 0.13	— 20.46	350 19 50.30	+ 3 43.87	— 10.5	8 50 16.71	— 3.93	41 29 44.9	— 8.2
	45	ι Ursæ Majoris		9	51 27.88	— 0.13	— 20.46	350 19 50.30	+ 3 41.38	— 10.5	8 51 7.29	. .	41 29 42.4	+ 1.8
	46	B. A. C. 3116		9	4 24.62	— 3.40	— 20.46	325 23 50.05	+ 4 13.63	— 42.4	9 4 0.76	— 7.40	16 33 42.5	— 6.0
19, S.	47	Lalande 9400		9	54 15.76	+ 1.36	— 21.13	35 41 48.35	+ 4 44.96	+ 43.1	4 53 55.99	— 1.90	86 53 37.6	— 3.8
	48	β Tauri		9	19 9.07	+ 0.66	— **21.12**	10 17 51.68	+ 5 14.79	+ 11.0	5 18 48.59	. .	61 29 38.7	+ 1.2
	49	δ Orionis		9	26 17.46	+ 1.45	— **21.19**	39 11 48.10	+ 4 27.01	+ 49.1	5 25 57.70	. .	90 23 25.4	+ 0.2
	50	ε Orionis		8	30 32.25	+ 1.47	— **21.17**	40 5 51.62	+ 3 48.32	+ 50.6	5 30 12.57	. .	91 16 51.7	— 0.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
4	30.35	28.8	26.3
10	30.35	28.3	25.7
11	30.48	29.4	28.9
15	30.48	32.4	31.9
17	30.46	35.2	33.8
18	30.46	42.1	36.3
22	30.45	38.8	37.3
23	30.44	34.7	32.3
30	30.43	34.0	31.0
41	30.41	31.9	28.9
46	30.40	31.6	28.8
47	30.14	41.0	39.1

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

5, 40, 44, 45. One bisection. 1 to 10 + 38″.28
30, 34. Three bisections. 11 to 22 + 34.53
11, 12, 13, 15, 18, 49. Four bisections. 23 to 46 + 37.52
9, 21. Five bisections. 47 to 50 + 37.09
46. Temperature and barom. observed at 9ʰ 35ᵐ.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
1	—40 1.0	— 15 17.4	. .	— 55 18.4
16	— 6.9	— 16 13.8	. .	— 16 20.7
17	— 6.9	+ 16 13.8	. .	+ 16 6.9
19	— 6.3	— 11.8	. .	— 18.1

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
February 19, S.	1	B. A. C. 1849 (R)	.	.	. . .	. .	. .	200 53 47.28	+ 3 56.30	+ 23.0	. . . .	. .	30 8 14.6	+11.3
	2	B. A. C. 1849	.	.	. . .	. .	. .	338 57 52.38	+ 4 27.94	— 23.0	5 44 . .	. .	30 8 18.5	+11.3
	3	B. A. C. 1939 (R)	.	.	. . .	. .	. .	161 9 46.50	+ 5 15.40	— 20.4	. . . .	. .	69 51 39.7	— 1.5
	4	B. A. C. 1939	.	.	. . .	. .	. .	18 39 46.18	+ 5 11.92	+ 20.4	5 57 . .	. .	69 51 39.7	— 1.5
	5	δ Ursæ Min., S. P.	.	7	10 17.96	+24.40	— 21.18	305 27 51.90	+ 3 30.51	— 1 24.2	18 10 21.18	. .	356 36 19.4	+ 0.8
	6	Lalande 12494	.	9	25 32.61	+ 1.15	— 21.19	27 11 46.40	+ 3 56.05	+ 31.0	6 25 12.57	— 2.47	78 22 34.6	— 5.6
	7	γ Geminorum	.	9	31 12.94	+ 1.02	— **21.15**	22 17 54.60	+ 5 27.30	+ 24.8	6 30 52.77	. .	73 30 7.9	+ 1.1
	8	Stone 3158	.	6	38 34.72	+ 2.61	— 21.20	77 2 . .	. .	. .	6 38 16.13	— 2.08	128 17 . .	. .
	9	Stone 3159	.	5	38 35.48	+ 2.61	— 21.20	77 2 . .	. .	. .	6 38 16.89	— 2.08	128 17 . .	. .
	10	B. A. C. 2246	.	9	45 44.86	+ 2.38	— 21.20	71 7 57.82	+ 5 22.09	+ 2 55.8	6 45 26.04	— 2.15	122 22 36.9	—16.3
	11	B. A. C. 2288	.	8	53 23.06	+ 2.48	— 21.21	74 5 54.48	+ 5 29.64	+ 3 30.3	6 53 4.33	— 2.18	125 21 15.6	—16.7
	12	Stone 3320	.	8	53 40.59	+ 2.48	— 21.21	74 5 54.48	+ 2 53.13	+ 3 29.8	6 53 21.86	— 2.18	125 18 38.6	—16.7
	13	B. A. C. 2315	.	9	57 52.09	+ 2.48	— 21.21	74 5 54.48	+ 7 10.26	+ 3 30.8	6 57 33.36	— 2.20	125 22 56.8	—16.8
	14	δ Draconis, S. P.	.	9	12 45.59	+ 4.64	— 21.22	286 19 46.08	+ 4 14.27	— 3 22.9	19 12 29.01	. .	337 26 58.7	+ 1.4
	15	Piazzi VII, 67	.	9	18 58.36	— 2.15	— 21.22	330 7 55.88	+ 3 51.88	— 34.6	7 18 34.99	. .	21 17 34.4	+ 1.9
	16	η Cancri	.	9	26 12.92	+ 0.88	— **21.21**	17 58 . .	. .	. .	8 25 52.53	. .	69 10 . .	. .
	17	ε Hydræ	.	9	40 51.33	+ 1.26	— **21.34**	31 57 53.90	+ 4 6.21	+ 38.1	8 40 31.31	. .	83 8 59.4	+ 1.9
	18	κ Cancri	.	9	1 41.13	+ 1.14	— **21.29**	27 39 49.38	+ 4 45.24	+ 32.1	9 1 20.98	. .	78 51 27.9	+ 0.6
21, W.	19	B. A. C. 2069	.	9	22 35.48	— 5.14	— 23.02	320 43 49.92	+ 5 17.34	— 49.1	6 22 7.32	— 8.20	11 54 39.4	+12.4
	20	γ Geminorum	.		31 14.80	+ 1.02	— **23.04**	22 17 52.28	+ 5 31.20	+ 24.9	6 30 52.79	. .	73 30 9.6	+ 2.8
	21	α Canis Majoris	.	9	40 17.58	+ 1.89	— **23.08**	55 21 48.80	+ 3 53.16	+ 1 27.4	6 39 56.44	. .	106 33 30.6	+ 0.9
	22	51 Cephei	.	7	45 37.63	—27.16	— 23.04	311 37 23.55	+ 2 59.70	— 1 7.7	6 44 47.43	. .	2 46 6.7	0.0
	23	α^2 Geminorum	.		. . .	. .	. .	6 39 49.92	+ 4 53.40	+ 7.1	7 27 . .	. .	57 51 11.6	+ 0.5
	24	Weisse (2) 955	.	9	34 16.08	+ 0.83	— 23.09	15 31 46.98	+ 4 10.98	+ 16.9	7 33 53.82	— 2.92	66 42 36.1	— 6.6
	25	β Geminorum	.	9	38 27.37	+ 0.68	— **23.04**	10 29 47.48	+ 5 2.17	+ 11.3	7 38 4.96	. .	61 41 22.1	+ 0.4
	26	φ Geminorum	.	9	46 38.21	+ 0.72	— **23.09**	11 43 48.80	+ 5 23.00	+ 12.7	7 46 15.83	. .	62 55 45.7	0.0
	27	B. A. C. 2649	.	9	52 9.02	+ 1.01	— 23.10	21 59 48.95	+ 3 18.75	+ 24.5	7 51 46.93	— 2.85	73 9 53.4	— 9.2
	28	Weisse (2) 1566	.	9	59 0.42	+ 0.28	— 23.11	359 27 54.48	+ 4 6.27	— 0.5	7 58 37.59	— 3.43	50 38 21.5	— 4.8
	29	B. A. C. 2772	.	9	8 25.27	+ 2.56	— 23.12	75 23 51.60	+ 4 14.22	+ 3 49.7	8 8 4.71	— 2.53	126 38 16.7	—17.4
	30	Lalande 16413	.	9	17 53.84	+ 0.43	— 23.13	3 25 51.60	+ 4 10.41	+ 3.7	8 17 31.14	— 3.34	54 36 26.9	— 7.1
	31	Anonymous	8.8	9	24 39.84	+ 1.28	— 23.13	31 47 56.48	+ 4 23.30	+ 37.6	8 24 17.99	— 2.79	82 59 18.6	—12.7
	32	B. A. C. 2933	.	9	35 12.34	+ 2.54	— 23.14	74 57 53.90	+ 3 39.47	+ 3 43.0	8 34 51.74	— 2.65	126 11 37.6	—17.1
	33	B. A. C. 3012	.	9	45 46.27	+ 2.63	— 23.15	77 27 55.90	+ 3 33.45	+ 4 27.9	8 45 25.75	— 2.71	128 42 18.5	—17.0
	34	O. Arg. N. 9450	.	9	50 40.17	— 0.18	— 23.16	350 19 50.52	+ 3 43.32	— 10.3	8 50 16.83	— 3.92	41 29 44.7	— 7.5
	35	ι Ursæ Majoris	.	9	51 30.52	— 0.18	— 23.16	350 19 50.52	+ 3 40.16	— 10.3	8 51 7.18	. .	41 29 41.6	+ 1.7
	36	B. A. C. 3116	.	9	4 27.62	— 3.27	— 23.17	325 23 51.98	+ 4 8.39	— 41.7	9 4 1.18	— 7.36	16 33 39.9	— 4.9
	37	B. A. C. 3192^1	.	9	16 5.89	+ 2.34	— 23.18	70 3 49.75	+ 2 41.77	+ 2 46.3	9 15 45.05	— 2.77	121 15 39.0	—16.5
	38	Anonymous	.	9	17 31.56	+ 2.34	— 23.18	70 3 49.75	+ 4 46.75	+ 2 46.5	9 17 10.72	— 2.77	121 17 44.2	—16.5
	39	B. A. C. 3254^1	.	5	26 3.82	+ 2.35	— 23.19	70 7 57.52	+ 5 17.30	2 47.3	9 25 42.98	— 2.79	121 22 23.3	—16.4
	40	B. A. C. 3254^2	.	3	26 4.30	+ 2.35	— 23.19	70 7 57.52	+ 5 9.41	+ 2 47.3	9 25 43.46	— 2.79	121 22 15.4	—16.4
	41	B. A. C. 3262	.	5	26 50.58	+ 2.35	— 23.19	70 7 57.52	+ 4 4.98	+ 2 47.1	9 26 29.74	— 2.80	121 21 10.8	—16.3
	42	B. A. C. 3346 (R)	.	.	. . .	. .	. .	200 37 51.50	+ 3 47.75	+ 22.9	. . . .	. .	30 24 19.1	—10.7
	43	B. A. C. 3346	.	2	42 59.66	— 0.97	— 23.21	339 13 50.68	+ 4 33.21	— 22.9	9 42 35.48	— 4.67	30 24 22.2	—10.7
	44	B. A. C. 3415	.	.	. . .	. .	. .	30 11 47.18	+ 4 40.33	+ 35.4	9 54 . .	. .	81 23 24.1	—16.1
	45	α Leonis (R)	.	.	. . .	. .	. .	153 35 51.75	+ 3 35.95	— 30.1	. . . .	. .	77 27 23.6	+ 0.9
	46	α Leonis	.	.	. . .	. .	. .	26 15 48.78	+ 4 42.84	+ 30.1	10 2 . .	. .	77 27 22.9	+ 0.2
	47	l Leonis	.	9	43 25.10	+ 1.15	— **23.25**	27 37 51.85	+ 5 3.97	+ 32.0	10 43 2.99	. .	78 49 49.0	— 0.4
	48	O. Arg. N. 11292	.	9	52 43.36	— 0.42	— 23.27	346 17 51.90	+ 5 10.69	— 14.7	10 52 19.67	— 3.83	37 29 9.1	—17.4
	49	δ Leonis	.	9	8 12.00	+ 0.88	— **23.24**	17 37 51.60	+ 5 14.30	+ 19.5	11 7 49.59	. .	68 49 46.6	— 0.5
	50	δ Crateris	.	9	13 47.87	+ 1.81	— **23.35**	52 55 53.92	+ 4 45.46	+ 1 20.7	11 13 26.39	. .	104 8 21.3	0.0

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
14	30.19	38.3	35.2
18	30.22	35.8	31.2
19	30.14	37.9	35.6
23	30.15	36.9	35.0
50	30.17	34.0	31.5

For summary of the constants of reduction see page 3.

35, 46. One bisection.
5, 22. Three bisections.

ZENITH-POINT CORR.

1 to 18 + 37.09″
19 to 50 + 37.57

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
February 23, R.	1	γ Aquilæ	9		41 0.56	+ 0.90	**— 24.85**	28 29 53.58	+ 3 48.22	+ 34.4	19 40 36.58	. .	79 40 37.4	+ 0.1
	2	α Aquilæ	9		45 23.04	+ 0.94	**— 24.85**	30 16 0.78	+ 3 44.59	+ 36.9	19 44 59.10	. .	81 26 43.5	— 2.5
	3	γ Cygni	9		18 21.90	+ 0.02	**— 24.68**	358 55 55.08	+ 5 14.97	— 1.1	20 17 57.04	. .	50 7 30.1	— 0.5
	4	ε Delphini	9		27 56.22	+ 0.89	**— 25.09**	27 57 . .	. . .	. .	20 27 32.23	. .	79 6 . .	. .
	5	α Cygni	9		37 46.96	— 0.19	— 24.88	353 57 55.65	+ 4 32.38	— 6.5	20 37 21.89	. .	45 8 42.7	— 1.1
	6	α Cephei	9		16 8.86	— 1.37	— 24.87	336 43 54.10	+ 5 16.57	— 26.8	21 15 42.62	. .	27 55 5.1	— 0.8
	7	β Cephei	9		27 31.53	— 2.52	— 24.87	328 47 55.18	+ 4 0.31	— 37.8	21 27 4.14	. .	19 57 38.9	— 0.7
	8	ε Pegasi	9		38 44.72	+ 0.94	**— 24.91**	29 29 51.08	+ 3 22.42	+ 35.5	21 38 20.79	. .	80 40 10.2	— 0.8
24	9	Sun I, S.	9		31 29.98	+ 1.40	— 24.87	48 15 53.22	+ 5 37.37	+ 1 10.0	22 31 6.51	+65.68	99 29 1.8	. .
	10	Sun II, N.	7		33 41.34	+ 1.40	— 24.87	47 43 54.80	+ 5 14.11	+ 1 8.7	22 33 17.87	—65.68	98 56 38.8	. .
	11	ι Cephei	9		45 51.60	— 1.76	— 24.87	333 15 58.38	+ 3 34.70	— 31.2	22 45 24.97	. .	24 25 23.1	+ 0.9
	12	Mercury I, C.	9		36 31.12	+ 1.19	— 24.86	39 27 59.52	+ 4 27.95	+ 50.9	23 36 7.45	+ 0.25	90 39 39.6	. .
	13	α Andromedæ	9		2 38.98	+ 0.46	**— 24.83**	10 23 54.58	+ 3 26.51	+ 11.4	0 2 14.58	. .	61 33 53.7	+ 1.5
	14	γ Pegasi	9		7 31.07	+ 0.83	**— 24.93**	24 17 58.20	+ 3 50.69	+ 27.9	0 7 7.04	. .	75 28 38.0	+ 2.1
	15	α Cassiopeæ	9		34 11.41	— 0.78	— 24.86	342 55 55.95	+ 4 44.75	— 18.8	0 33 45.77	. .	34 6 43.1	+ 1.8
	16	β Andromedæ	9		3 29.50	+ 0.24	**— 24.82**	3 49 51.80	+ 4 13.21	+ 4.2	1 3 4.88	. .	55 0 30.4	+ 2.4
	17	Polaris	7		16 1.47	—55.32	— 24.86	310 9 53.12	+ 4 9.25	— 1 12.7	1 14 41.29	. .	1 19 10.9	+ 1.6
	18	Venus I, S.	9		21 37.98	+ 0.92	— 24.86	27 49 54.02	+ 4 42.17	+ 32.6	1 21 14.04	+ 0.86	79 1 30.0	. .
W.	19	ζ Cygni	9		8 17.39	+ 0.66	**— 25.80**	9 3 50.78	+ 5 17.74	+ 9.6	21 7 52.17	. .	60 15 39.3	— 0.6
	20	α Cephei	9		16 9.33	— 0.88	— 25.88	336 43 56.55	+ 5 14.65	— 25.6	21 15 42.57	. .	27 55 6.8	+ 0.6
	21	β Cephei	4		27 31.85	— 1.88	— 25.88	328 47 59.80	+ 3 56.59	— 36.1	21 27 4.09	. .	19 57 41.5	+ 1.5
	22	ε Pegasi	2		38 45.56	+ 1.16	**— 25.95**	29 29 53.60	+ 3 21.58	+ 33.8	21 38 20.84	. .	80 40 10.2	— 0.9
25	23	Sun I, S.	9		35 17.71	+ 1.57	— 25.88	47 53 53.45	+ 5 17.96	+ 1 6.0	22 34 53.40	+65.59	99 6 38.6	. .
	24	Sun II, N.	9		37 28.89	+ 1.57	— 25.88	47 21 53.55	+ 4 59.43	+ 1 4.8	22 37 4.58	—65.59	98 34 19.0	. .
E.	25	γ Cygni	9		18 23.10	+ 0.31	**— 26.12**	358 55 52.70	+ 5 20.07	— 1.0	20 17 57.16	. .	50 7 33.0	+ 1.9
	26	α Cygni	9		37 48.14	+ 0.12	**— 26.22**	353 57 54.38	+ 4 36.95	— 6.4	20 37 22.01	. .	45 8 46.1	+ 1.8
	27	ζ Cygni	9		8 18.03	+ 0.64	**— 26.41**	9 3 50.30	+ 5 19.19	+ 9.8	21 7 52.42	. .	60 15 40.5	+ 0.4
	28	α Cephei	9		16 9.84	— 0.90	— 26.25	336 43 53.90	+ 5 20.00	— 26.1	21 15 42.69	. .	27 55 9.0	+ 2.5
26	29	Sun I, N.	9		39 4.32	+ 1.54	— 26.25	47 1 51.20	+ 2 37.89	+ 1 4.9	22 38 39.61	+65.71	98 11 55.2	. .
	30	Sun II, S.	9		41 15.74	+ 1.54	— 26.25	47 33 51.80	+ 2 55.45	+ 1 6.1	22 40 51.03	—65.71	98 44 14.5	. .
	31	Mercury I, C.	9		40 39.34	+ 1.37	— 26.25	38 29 51.02	+ 4 29.32	+ 48.1	23 40 14.46	+ 0.27	89 41 29.6	. .
March 1, W.	32	ν Orionis	9		1 17.77	+ 1.13	**— 29.96**	24 1 47.78	+ 4 36.56	+ 27.0	6 0 48.98	. .	75 13 12.5	+ 1.2
	33	γ Geminorum	9		31 21.71	+ 1.07	**— 30.12**	22 17 52.55	+ 5 28.37	+ 24.9	6 30 52.82	. .	73 30 7.0	+ 0.2
	34	α Canis Majoris	9		40 24.39	+ 2.07	— 29.97	55 21 49.25	+ 3 52.44	+ 1 27.5	6 39 56.49	. .	106 33 30.4	— 0.1
	35	51 Cephei	5		45 47.00	—32.12	— 29.97	311 37 53.05	+ 3 0.96	— 1 7.8	6 44 44.91	. .	2 46 7.4	+ 2.3
	36	φ Geminorum	9		46 44.88	+ 0.72	**— 29.84**	11 43 48.78	+ 5 21.91	+ 12.6	7 46 15.56	. .	62 55 44.5	— 0.7
	37	Groom. 1400	9		58 38.37	— 2.96	— 30.06	328 45 51.68	+ 4 35.66	— 36.5	7 58 5.35	— 6.06	19 56 12.0	+ 3.3
	38	O. Arg. N. 8685	9		6 0.39	— 2.95	— 30.07	328 45 51.68	+ 5 14.03	— 36.6	8 5 27.37	— 6.10	19 56 50.3	+ 2.6
	39	O. Arg. N. 9001	9		21 36.83	— 0.48	— 30.09	347 43 49.75	+ 6 35.30	— 13.0	8 21 6.26	— 3.95	38 56 33.2	— 3.0
	40	O. Arg. N. 9029	7		23 35.72	— 0.48	— 30.09	347 43 49.75	+ 3 45.33	— 13.1	8 23 5.15	— 3.96	38 53 43.2	— 3.1
	41	O. Arg. N. 9033	7		23 48.88	— 0.48	— 30.09	347 43 49.75	+ 8 18.34	— 13.0	8 23 18.31	— 3.95	38 58 16.3	— 3.2
	42	O. Arg. N. 9125	9		30 43.29	— 0.48	— 30.10	347 43 49.75	+ 5 26.31	— 13.1	8 30 12.71	— 3.97	38 55 24.2	— 3.8
	43	O. Arg. N. 9210	9		34 15.14	— 0.64	— 30.10	347 43 49.75	+ 5 36.81	— 13.1	8 33 44.40	— 3.98	38 55 34.7	— 4.1
	44	B. A. C. 3053	9		51 48.64	+ 1.28	— 30.12	28 57 52.82	+ 4 44.71	+ 33.6	8 51 19.80	— 2.84	80 9 32.3	—13.7
	45	Abo 185	9		57 30.78	— 0.49	— 30.13	347 31 49.32	+ 4 21.26	— 13.3	8 57 0.16	— 4.03	38 42 18.5	— 6.1
	46	Lalande 18067	9		3 24.12	+ 2.01	— 30.14	53 27 54.40	+ 4 11.17	+ 1 21.8	9 2 55.99	— 2.68	104 39 48.6	—17.4
	47	γ¹ Leonis	9		13 57.04	+ 0.94	**— 30.29**	18 21 49.25	+ 5 12.23	+ 20.2	10 13 27.76	. .	69 33 42.9	+ 1.2
	48	ρ Leonis	9		27 4.61	+ 1.27	**— 30.24**	28 53 50.92	+ 4 27.27	+ 33.4	10 26 35.64	. .	80 5 12.8	+ 1.9
	49	l Leonis	9		43 32.01	+ 1.23	**— 30.18**	27 36 53.15	+ 6 4.42	+ 31.7	10 43 2.98	. .	78 49 50.5	+ 0.9
2, E.	50	δ Orionis	9		26 26.83	+ 1.35	**— 30.69**	39 11 46.98	+ 4 29.35	+ 48.5	5 25 57.46	. .	90 23 26.0	+ 0.3

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.28	18.3	16.3
3	30.30	20.2	18.8
5	30.29	20.8	19.3
8	30.30	23.1	20.3
10	30.28	24.8	22.7
12	30.22	27.6	25.9
14	30.22	28.7	26.5
18	30.21	29.5	26.8
19	30.06	37.2	38.8
24	30.06	40.4	40.6
25	30.36	33.0	31.5
30	30.32	39.3	38.0
32	29.63	29.6	26.8
46	29.66	27.8	26.4
49	29.65	28.8	27.8
50	29.75	38.5	37.0

For summary of the constants of reduction see page 3.

40.	One bisection.
3.	Three bisections.
2, 12, 18, 19, 20.	Four bisections.
17.	Five bisections.

ZENITH-POINT CORR.

	″
1 to 18	+ 35.68
19 to 24	+ 34.58
25 to 31	+ 36.58
32 to 49	+ 37.61
50	+ 36.38

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
9	— 6.6	— 16 11.5	. .	— 16 18.1
10	— 6.6	+ 16 11.5	. .	+ 16 4.9
12	— 6.3	. . .	— 0.8	— 7.1
18	— 6.1	— 12.7	. .	— 18.8
23	— 6.6	— 16 9.8	. .	— 16 16.4
24	— 6.5	+ 16 9.8	. .	+ 16 3.3
29	— 6.5	+ 16 9.6	. .	+ 16 3.1
30	— 6.6	— 16 9.6	. .	— 16 16.2
31	— 6.5	. . .	— 1.1	— 7.6

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
March 2, E.	1	B. A. C. 1814	.	8	38 29.12	+ 2.41	− 30.73	73 29 47.38	+ 4 25.86	+ 3 18.9	5 38 0.80	− 1.49	124 43 53.3	−16.4
	2	υ Aurigæ	.	9	43 28.51	+ 0.21	− 30.73	1 33 47.80	+ 3 34.94	+ 1.7	5 42 57.99	− 2.56	52 43 45.6	+ 5.2
	3	B. A. C. 1878	.	9	47 15.92	+ 2.44	− 30.73	74 35 50.32	+ 3 23.03	+ 3 33.5	5 46 47.63	− 1.53	125 49 8.1	−16.9
	4	B. A. C. 1904	.	3	51 29.88	+ 2.62	− 30.74	78 43 49.50	+ 4 0.06	+ 4 52.1	5 51 1.76	− 1.50	129 59 2.9	−17.7
	5	D. M. + 17°, 1115	.	3	58 43.29	+ 0.84	− 30.74	20 53 52.28	+ 3 32.32	+ 22.8	5 58 13.39	− 2.27	72 4 8.6	− 2.3
	6	Piazzi VI, 12	.	9	4 40.87	+ 2.72	− 30.74	80 51 49.85	+ 4 19.72	+ 5 58.4	6 4 12.85	− 1.57	132 8 29.2	−18.4
	7	μ Geminorum	.	9	16 18.21	+ 0.70	**− 30.77**	16 13 45.45	+ 5 17.30	+ 17.5	6 15 48.16	. .	67 25 41.5	+ 2.8
	8	VI, 2¹	9	6	20 9.58	+ 2.14	− 30.75	66 43 50.98	+ 5 29.13	+ 2 18.5	6 19 40.97	− 1.83	117 57 59.8	−16.4
	9	VI, 2²	7.5	5	20 10.28	+ 2.14	− 30.75	66 43 50.98	+ 5 25.07	+ 2 18.5	6 19 41.67	− 1.83	117 57 55.7	−16.4
	10	γ Geminorum	.	9	31 22.54	+ 0.88	**− 30.77**	22 17 51.80	+ 5 31.23	+ 24.6	6 30 52.66	. .	73 30 8.8	+ 2.0
	11	B. A. C. 2190	.	9	35 6.38	+ 2.52	− 30.76	76 37 54.85	+ 5 17.32	+ 4 8.0	6 34 38.14	− 1.82	127 53 41.4	−18.6
	12	51 Cephei	.	8	45 43.61	−28.43	− 30.77	311 37 53.20	+ 2 59.86	− 1 7.1	6 44 44.41	. .	2 46 7.2	+ 2.2
	13	B. A. C. 2288	.	.	. . .	. .	. .	74 5 51.40	− 5 37.90	+ 3 28.4	6 53 . .	. .	125 21 18.9	−18.6
	14	Stone 3320	.	.	. . .	. .	. .	74 5 51.40	+ 2 59.81	+ 3 27.8	6 53 . .	. .	125 18 40.2	−18.6
	15	B. A. C. 2315	.	.	. . .	. .	. .	74 5 51.40	+ 7 12.32	+ 3 28.8	6 58 . .	. .	125 22 53.7	−18.6
	16	Piazzi VII, 137	.	9	26 35.83	+ 2.23	− 30.80	69 29 47.70	+ 4 16.08	+ 2 39.7	7 26 7.26	− 2.19	120 43 4.7	−18.4
	17	B. A. C. 2543	.	8	35 46.31	+ 2.52	− 30.80	76 43 51.80	+ 7 59.50	+ 4 12.2	7 35 18.03	− 2.22	128 2 24.7	−19.5
	18	B. A. C. 2546	.	8	36 6.62	+ 2.51	− 30.80	76 43 51.80	+ 5 10.83	+ 4 11.3	7 35 38.33	− 2.22	127 59 35.1	−19.4
	19	B. A. C. 2604	.	9	44 35.02	+ 2.62	− 30.81	79 3 48.08	+ 6 26.21	+ 5 5.1	7 44 6.83	− 2.26	130 21 40.6	−19.7
	20	B. A. C. 2614	.	9	45 40.90	+ 2.62	− 30.81	79 3 48.08	+ 9 11.38	+ 5 6.4	7 45 12.71	− 2.27	130 24 27.1	−19.8
	21	B. A. C. 2634	.	9	48 38.03	+ 2.62	− 30.81	79 3 48.08	+ 1 17.28	+ 5 2.9	7 48 9.84	− 2.29	130 16 29.5	−19.7
	22	3 Ursæ Majoris (R)	.	.	. . .	. .	. .	209 49 46.10	+ 5 24.13	+ 34.6	. . . .	. .	21 10 36.4	− 0.9
	23	3 Ursæ Majoris	.	6	1 36.15	− 2.47	− 30.82	329 59 51.00	+ 5 3.06	− 34.6	8 1 2.86	. .	21 10 40.7	+ 3.4
	24	Mer. C. Z. 168, 6	7	8	11 59.55	+ 2.41	− 30.82	74 15 52.10	+ 6 52.16	+ 3 32.4	8 11 31.14	− 2.43	125 32 37.9	−19.3
	25	M. Z. 232, 21	8	8	12 13.06	+ 2.41	− 30.82	74 15 52.10	+ 5 39.68	+ 3 32.1	8 11 44.65	− 2.43	125 31 25.1	−19.3
	26	B. A. C. 2809	.	9	17 36.64	+ 2.57	− 30.83	77 59 44.98	+ 4 7.96	+ 4 38.3	8 17 8.38	− 2.46	129 14 52.4	−19.6
	27	η Cancri (R)	.	.	. . .	. .	. .	161 53 49.92	+ 3 19.99	− 19.6	. . . .	. .	69 9 30.9	+ 0.2
	28	η Cancri	.	.	. . .	. .	. .	17 57 51.72	+ 4 57.30	+ 19.6	8 26 . .	. .	69 9 29.8	− 0.9
	29	κ Cancri	.	9	1 50.77	+ 1.02	**− 30.84**	27 39 43.02	+ 4 52.82	+ 31.8	9 1 20.93	. .	78 51 28.8	+ 1.3
	30	B. A. C. 3146	.	9	8 42.78	+ 1.24	− 30.86	35 59 52.72	+ 4 22.51	+ 44.0	9 8 13.16	− 2.80	87 11 20.4	−15.5
	31	B. A. C. 3193	.	9	16 14.07	+ 2.46	− 30.86	75 49 49.28	+ 4 50.14	+ 3 56.6	9 15 45.67	− 2.76	127 4 57.2	−18.9
	32	α Hydræ	.	9	22 16.54	+ 1.52	**− 30.93**	46 57 53.35	+ 3 34.48	+ 1 4.8	9 21 47.19	. .	98 8 53.8	− 0.1
	33	B. A. C. 3267	.	9	28 7.09	+ 2.60	− 30.87	78 51 48.42	+ 4 32.52	+ 5 0.7	9 27 38.82	− 2.84	130 7 42.8	−18.6
	34	ε Leonis	.	9	39 39.06	+ 0.63	**− 30.88**	14 29 47.75	+ 4 32.36	+ 15.7	9 39 8.81	. .	65 40 57.0	+ 0.2
	35	Brisbane 2651	.	7	41 53.55	+ 2.60	− 30.88	78 49 48.35	+ 4 34.97	+ 5 0.1	9 41 25.27	− 2.90	130 5 44.6	−18.3
	36	μ Leonis	.	9	46 33.08	+ 0.56	**− 30.84**	12 15 49.90	+ 3 49.09	+ 13.2	9 46 2.76	. .	63 26 13.4	− 0.5
	37	Pomona	.	9	50 33.12	+ 1.20	− 30.89	34 33 49.85	+ 7 36.20	+ 41.9	9 50 3.43	. .	85 48 29.1	− 3.5
	38	Anonymous	.	6	5 19.00	+ 1.36	− 30.90	40 47 55.10	+ 7 44.52	+ 52.5	10 4 49.46	− 2.86	92 2 53.3	−17.4
5, W.	39	B. A. C. 2089	.	9	21 25.72	+ 2.43	− 33.91	78 57 56.02	+ 4 5.64	+ 5 1.4	6 20 54.24	− 1.63	130 13 24.3	−18.9
	40	γ Geminorum	.	8	31 25.54	+ 0.79	**− 33.73**	22 17 51.02	+ 5 30.00	+ 24.8	6 30 52.42	. .	73 30 7.0	+ 0.1
	41	51 Cephei	.	9	45 44.48	−27.41	− 33.91	311 37 53.58	+ 2 58.47	− 1 7.5	6 44 43.16	. .	2 46 5.7	+ 1.1
	42	Lalande 13799	.	9	1 58.59	+ 1.02	− 33.91	31 9 50.40	+ 3 57.01	+ 36.5	7 1 25.70	− 2.39	82 20 45.1	− 9.0
	43	δ Canis Majoris	.	9	4 7.38	+ 1.92	**− 34.09**	64 59 50.05	+ 4 13.71	+ 2 8.8	7 3 35.39	. .	116 12 33.8	− 2.5
	44	Weisse (2) 393	.	9	15 38.20	+ 0.40	− 33.91	8 45 49.70	+ 4 37.57	+ 9.4	7 15 4.69	− 2.85	59 56 57.9	− 3.0
6, E.	45	δ Persei	.	9	35 3.61	− 0.18	**− 34.41**	351 25 55.65	+ 3 18.60	− 8.8	3 34 29.06	. .	42 35 26.6	− 0.3
	46	η Tauri	.	9	40 59.93	+ 0.62	**− 34.42**	15 3 50.50	+ 5 16.67	+ 16.0	3 40 26.18	. .	66 15 44.4	− 0.9
	47	ζ Persei	.	9	47 14.64	+ 0.41	**− 34.28**	7 17 54.60	+ 3 43.94	+ 7.6	3 46 40.69	. .	58 28 7.3	− 1.1
	48	γ¹ Eridani	.	9	53 2.63	+ 1.51	**− 34.35**	52 39 51.80	+ 3 30.17	+ 1 17.4	3 52 29.78	. .	103 51 0.6	+ 0.9
	49	Moon I, S.	.	9	17 13.48	+ 0.66	− 34.35	16 29 48.42	+ 2 26.30	+ 17.6	4 16 39.79	+67.77	67 38 53.5	. .
	50	ε Tauri	.	9	22 15.39	+ 0.75	**− 34.38**	19 53 52.95	+ 4 28.26	+ 21.5	4 21 41.79	. .	71 5 3.9	+ 0.8

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
28	29.90	34.5	32.0
38	29.90	33.5	30.0
39	29.54	30.6	27.8
44	29.58	29.2	27.0
46	29.83	41.0	42.0

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

7, 13, 38. One bisection. 1 to 38 + 36.″38
12. Three bisections. 39 to 44 + 36.07
6, 45, 47. Four bisections. 45 to 50 + 35.49
41, 49. Five bisections.
44. Barometer and thermometers observed at 8ʰ 11ᵐ.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
49	−15 29.5	− 15 2.5	. .	− 30 32.0

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
March 6, E.	1	α Tauri		9	29 40.73	+ 0.81	**— 34.30**	22 31 49.20	+ 5 16.90	+ 24.7	4 29 7.19	. .	73 43 52.0	+ 0.4
	2	ι Aurigæ		9	49 50.72	+ 0.36	**— 34.35**	5 49 50.52	+ 5 1.84	+ 6.1	4 49 16.74	. .	57 1 19.7	— 0.1
S.	3	ζ Cygni		9	8 26.73	+ 0.58	**— 34.89**	9 3 50.10	+ 5 19.01	+ 9.6	21 7 52.39	. .	60 15 39.9	— 1.6
	4	β Aquarii		9	25 51.72	+ 1.44	**— 34.97**	44 53 52.95	+ 4 22.43	+ 59.4	21 25 18.24	. .	96 5 36.0	— 0.7
	5	ε Pegasi		9	38 54.67	+ 1.09	**— 34.85**	29 29 50.15	+ 3 26.47	+ 33.7	21 38 20.84	. .	80 40 11.5	— 0.2
	6	α Aquarii		9	0 14.40	+ 1.32	**— 34.97**	39 41 52.08	+ 4 46.48	+ 49.4	21 59 40.80	. .	90 53 49.2	+ 0.2
7	7	Sun I, N.		9	12 47.39	+ 1.43	— 34.94	43 33 52.85	+ 3 47.61	+ 56.3	23 12 13.88	+64.95	94 44 58.0	. .
	8	Sun II, S.		9	14 57.30	+ 1.43	— 34.94	44 5 52.92	+ 4 1.68	+ 57.4	23 14 23.79	—64.96	95 17 13.2	. .
	9	α Andromedæ		9	2 48.90	+ 0.63	**— 34.94**	10 23 52.12	+ 3 29.51	+ 10.9	0 2 14.59	. .	61 33 53.7	— 0.2
	10	β Andromedæ		9	3 39.34	+ 0.44	**— 34.96**	3 49 49.90	+ 4 15.72	+ 4.0	1 3 4.82	. .	55 0 30.8	+ 1.0
	11	Polaris		5	16 1.57	—50.24	— 34.96	310 9 48.52	+ 4 12.42	— 1 9.6	1 14 36.37	. .	1 19 12.5	+ 0.4
	12	Venus I, S.		9	58 55.79	+ 0.96	— 34.96	23 3 49.98	+ 4 42.60	+ 25.2	1 58 21.79	+ 1.00	74 15 19.0	. .
	13	Moon I, S.		9	11 38.29	+ 0.64	— 35.03	15 53 49.08	+ 6 29.03	+ 17.0	5 11 3.90	+67.40	67 6 56.3	. .
	14	B. A. C. 1767 (R.)		.	. . .	. .	. .	162 5 50.38	+ 4 55.39	— 19.1	. . . .	. .	68 55 54.5	+ 0.2
	15	B. A. C. 1767		.	. . .	. .	. .	17 43 51.70	+ 5 21.87	+ 19.1	5 31 . .	. .	68 55 53.9	+ 0.2
	16	B. A. C. 1849 (R.)		.	. . .	. .	. .	200 53 48.02	+ 3 56.84	+ 22.8	. . . .	. .	30 8 13.5	+12.3
	17	B. A. C. 1849		.	. . .	. .	. .	338 57 54.50	+ 4 25.37	— 22.8	5 44 . .	. .	30 8 18.3	+12.3
	18	ν Orionis		9	1 22.94	+ 0.85	**— 34.95**	24 1 48.82	+ 4 35.22	+ 26.7	6 0 48.72	. .	75 13 11.9	+ 0.5
	19	B. A. C. 2039	8.2	9	14 51.54	+ 0.68	— 35.08	17 33 48.88	+ 4 28.19	+ 19.0	6 14 17.14	— 2.33	68 44 57.3	— 2.1
	20	γ Geminorum.		9	31 26.87	+ 0.81	**— 35.11**	22 17 52.45	+ 5 29.70	+ 24.7	6 30 52.59	. .	73 30 8.1	+ 1.2
	21	51 Cephei		8	45 42.25	—25.35	— 35.10	311 35 52.98	+ 4 58.54	— 1 7.3	6 44 41.80	. .	2 46 5.4	+ 1.0
	22	ε Canis Majoris		9	54 32.10	+ 1.99	**— 35.20**	67 35 51.98	+ 4 17.01	+ 2 25.2	6 53 58.98	. .	118 48 55.4	— 2.9
	23	VII, 3¹	8.6	6	12 56.53	+ 2.03	— 35.12	69 27 54.42	+ 5 2.23	+ 2 40.0	7 12 23.44	— 2.02	120 41 57.8	—18.9
	24	VII, 3²	6.5	5	12 56.55	+ 2.03	— 35.12	69 27 54.42	+ 4 24.44	+ 2 40.0	7 12 23.46	— 2.02	120 41 20.1	—18.9
	25	Weisse (2) 704	6.7	5	26 19.80	+ 0.62	— 35.13	15 39 50.08	+ 5 15.39	+ 17.0	7 25 45.29	— 2.72	66 51 43.7	— 5.7
	26	Weisse (2) 703	9	6	26 19.90	+ 0.62	— 35.13	15 39 50.08	+ 5 26.45	+ 17.0	7 25 45.39	— 2.72	66 51 54.7	— 5.7
	27	B. A. C. 2543	.	8	35 50.98	+ 2.30	— 35.14	76 43 51.45	+ 8 0.47	+ 4 13.1	7 35 18.14	— 2.12	128 2 26.2	—20.3
	28	B. A. C. 2546	.	8	36 11.16	+ 2.30	— 35.14	76 43 51.45	+ 5 6.97	+ 4 12.2	7 35 38.32	— 2.12	127 59 31.8	—20.3
	29	B. A. C. 2629	.	9	48 24.39	+ 2.16	— 35.15	73 13 48.68	+ 1 18.18	+ 3 17.9	7 47 51.40	— 2.21	124 24 46.0	—20.0
	30	B. A. C. 2646	.	9	50 46.89	+ 2.17	— 35.15	73 13 48.68	+ 8 52.25	+ 3 19.5	7 50 13.91	— 2.23	124 32 21.6	—20.1
	31	Anonymous	.	9	13 16.37	+ 2.21	— 35.17	74 15 51.62	+ 7 32.92	+ 3 33.0	8 12 43.41	— 2.36	125 33 18.7	—20.3
	32	B. A. C. 2900	.	9	31 25.51	+ 2.35	— 35.18	78 17 51.40	+ 5 2.82	+ 4 46.5	8 30 52.68	— 2.47	129 34 1.9	—20.7
	33	B. A. C. 3024	.	9	48 6.84	+ 2.40	— 35.19	79 15 52.32	+ 5 17.30	+ 5 12.2	8 47 34.05	— 2.58	130 32 43.0	—20.6
	34	12-Y. Cat. 1879, S.P.	.	9	53 16.45	+ 8.53	— 35.20	298 57 51.15	+ 3 50.76	— 1 48.6	20 52 49.78	. .	350 6 14.5	— 0.3
	35	σ² Ursæ Majoris	.	9	0 36.88	— 2.01	— 35.20	331 13 50.75	+ 3 28.70	— 33.1	8 59 59.67	. .	22 23 7.5	+ 3.7
	36	α Hydræ		9	22 21.00	+ 1.39	**— 35.28**	46 57 56.92	+ 3 31.38	+ 1 4.9	9 21 47.17	. .	98 8 54.4	— 0.1
	37	ε Leonis		9	39 43.39	+ 0.58	**— 35.18**	14 29 47.05	+ 4 32.63	+ 15.8	9 39 8.74	. .	65 40 56.7	+ 0.3
	38	μ Leonis		9	46 37.52	+ 0.51	**— 35.24**	12 15 51.52	+ 3 46.12	+ 13.2	9 46 2.79	. .	63 26 12.0	— 1.5
R.	39	α Cygni		9	37 58.11	— 0.32	**— 35.53**	353 57 57.32	+ 4 35.52	— 6.3	20 37 22.26	. .	45 8 47.7	+ 1.3
	40	α Cephei		9	16 19.91	— 1.57	— 35.53	336 43 53.62	+ 5 20.10	— 25.5	21 15 42.81	. .	27 55 9.4	+ 0.3
8	41	Sun I, S.		9	16 29.94	+ 1.28	— 35.55	43 41 48.88	+ 4 41.80	+ 55.8	23 15 55.67	+64.90	94 53 47.7	. .
	42	Sun II, N.		9	18 39.74	+ 1.28	— 35.55	43 9 51.02	+ 4 30.73	+ 54.7	23 18 5.47	—64.90	94 21 37.7	. .
	43	γ Pegasi		3	7 41.71	+ 0.80	**— 35.55**	24 18 . .	. . . .	. .	0 7 6.96	. .	75 29 . .	. .
10, E.	44	α Orionis		9	49 23.47	+ 1.07	**— 38.85**	31 25 51.70	+ 4 18.44	+ 35.4	5 48 45.69	. .	82 37 6.7	+ 1.5
	45	χ³ Orionis		9	57 4.92	+ 0.73	— 38.85	19 7 52.55	+ 4 1.91	+ 20.1	5 56 26.80	— 2.15	70 18 35.8	— 1.7
	46	Piazzi V, 334		5	3 11.63	— 0.40	— 38.86	350 5 49.18	+ 4 9.05	— 10.0	6 2 32.37	— 2.86	41 16 9.4	— 7.9
	47	Piazzi V, 333		6	3 11.65	— 0.40	— 38.86	350 5 49.18	+ 4 1.40	— 10.0	6 2 32.39	— 2.86	41 16 1.8	— 7.9
	48	δ Urs. Min., S. P.		5	10 42.10	+24.47	— 38.86	305 27 51.68	+ 3 26.42	— 1 20.9	18 10 27.71	. .	356 36 18.4	+ 2.0
	49	O. Arg. S. 5144		9	23 31.91	+ 2.01	— 38.87	64 33 49.48	+ 4 3.73	+ 2 1.5	6 22 55.05	— 1.71	115 46 15.9	—16.7
	50	O. Arg. N. 6978		9	27 15.00	— 3.08	— 38.87	326 59 50.05	+ 3 32.85	— 37.6	6 26 33.05	— 5.03	18 9 6.5	+12.8

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
4	30.11	41.0	41.9
8	30.11	44.2	44.7
12	30.10	47.6	46.8
13	30.08	44.0	42.5
25	30.08	39.7	35.2
38	30.11	36.2	32.8
39	30.06	37.1	37.2
42	30.01	47.8	50.6
44	29.73	49.0	49.5

For summary of the constants of reduction see page 3.

48. One bisection.
11, 13. Three bisections.
2, 12, 39*e* Four bisections.

ZENITH-POINT CORR.

	″
1 to 2	+ 35.49
3 to 12	+ 33.71
13 to 38	+ 34.63
39 to 42	+ 35.60
44 to 50	+ 37.22

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
7	— 6.1	+ 16 7.6	. .	+ 16 1.5
8	— 6.2	— 16 7.6	. .	— 16 13.8
12	— 5.8	— 14.5	. .	— 20.3
13	—14 52.0	— 14 54.5	. .	— 29 46.5
41	— 6.1	— 16 5.0	. .	— 16 11.1
42	— 6.1	+ 16 5.0	. .	+ 15 58.9

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
March														
), E.	1	O. Arg. N. 6979.	.	9	27 17.51	− 3.07	− 38.87	326 59 50.05	+ 6 22.08	− 37.5	6 26 35.57	− 5.02	18 11 55.8	+12.8
	2	γ Geminorum . .	.	7	31 30.49	+ 0.82	− **38.79**	22 17 49.95	+ 5 33.53	+ 23.9	6 30 52.44	. .	73 30 8.6	+ 1.7
	3	51 Cephei . . .	.	6	45 48.23	−27.57	− 38.88	311 37 54.12	+ 2 55.25	− 1 5.1	6 44 41.78	. .	2 46 5.5	+ 1.4
	4	B. A. C. 2309 .	.	9	57 37.54	+ 2.08	− 38.89	66 33 50.50	+ 3 49.44	+ 2 13.5	6 57 0.73	− 1.89	117 46 14.6	−18.3
	5	δ Canis Majoris .	.	9	4 12.08	+ 2.02	− **38.98**	64 59 49.75	+ 4 22.70	+ 2 4.3	7 3 35.21	. .	116 12 37.9	+ 1.1
	6	B. A. C. 2378 .	.	9	8 50.72	+ 2.40	− 38.90	75 5 53.45	+ 5 8.81	+ 3 36.0	7 8 14.22	− 1.88	126 20 59.5	−20.1
	7	B. A. C. 2413 .	.	9	13 13.91	+ 2.40	− 38.90	75 5 53.45	+ 7 19.56	+ 3 36.6	7 12 37.41	− 1.91	126 23 10.8	−20.2
	8	Moon I, N... .	.	9	48 10.19	+ 0.76	− 38.92	20 31 48.52	+ 4 6.02	+ 21.9	7 47 32.03	+64.54	71 42 37.6	. .
	9	Groom. 1400. .	.	9	58 46.12	− 2.70	− 38.93	328 45 50.18	+ 4 34.01	− 35.2	7 58 4.49	− 5.71	19 56 10.2	+ 5.0
	10	O. Arg. N. 8685.	.	9	6 8.69	− 2.70	− 38.94	328 45 50.18	+ 5 11.28	− 35.2	8 5 27.05	− 5.77	19 56 47.5	+ 4.4
	11	D.M.+36°,1782.	.	6	10 29.45	+ 0.15	− 38.94	2 3 46.18	+ 4 58.09	+ 2.2	8 9 50.66	− 3.18	53 15 7.7	− 4.4
	12	D.M.+36°,1783.	.	5	10 31.40	+ 0.15	− 38.94	2 3 46.18	+ 5 32.63	+ 2.2	8 9 52.61	− 3.17	53 15 42.2	− 4.4
	13	B. A. C. 2820 .	.	9	19 32.02	+ 2.46	− 38.94	76 39 48.68	+ 4 23.73	+ 4 2.4	8 18 55.54	− 2.34	127 54 36.0	−21.2
	14	Lacaille 3373 .	.	8	27 21.31	+ 2.50	− 38.95	77 23 48.30	+ 5 34.13	+ 4 17.0	8 26 44.86	− 2.39	128 40 0.6	−21.2
	15	B. A. C. 2877² .	.	8	27 40.07	+ 2.50	− 38.95	77 23 48.30	+ 5 44.44	+ 4 17.1	8 27 3.62	− 2.40	128 40 11.0	−21.2
	16	B. A. C. 3193 .	.	9	16 22.33	+ 2.43	− 38.98	75 49 49.98	+ 4 56.49	+ 3 48.9	9 15 45.78	− 2.68	127 4 56.6	−20.8
	17	α Hydræ . . .	.	9	22 24.70	+ 1.46	− **39.07**	46 57 52.88	+ 3 39.86	+ 1 2.7	9 21 47.18	. .	98 8 56.6	+ 1.8
	18	D.M.+37°,2006.	.	7	28 49.93	+ 0.11	− 38.99	1 24 . .	. .	. . .	9 28 11.05	− 3.39	52 36 . .	. .
	19	D.M.+37°,2007.	.	8	28 59.60	+ 0.11	− 38.99	1 24 . .	. .	. . .	9 28 20.72	− 3.39	52 36 . .	. .
	20	B. A. C. 3303 (R)	.	.	. . . .	. .	. .	140 25 53.25	+ 4 48.61	− 48.2	. . . .	. .	90 36 27.5	−17.2
	21	B. A. C. 3303 .	.	.	. . . .	. .	. .	39 23 48.32	+ 5 32.23	+ 48.2	9 34 . .	. .	90 36 30.0	−17.2
	22	Pomona . . .	.	9	44 59.28	+ 1.11	− 39.00	33 45 51.20	+ 5 32.03	+ 39.3	9 44 21.39	. .	84 58 23.7	− 3.3
	23	μ Leonis . . .	.	8	46 41.23	+ 0.50	− **38.95**	12 15 47.68	+ 3 52.28	+ 12.8	9 46 2.73	. .	63 26 14.0	+ 0.8
	24	B. A. C. 3417 .	.	9	54 25.77	+ 2.34	− 39.00	74 5 50.22	+ 4 5.00	+ 3 23.8	9 53 49.11	− 2.86	125 19 40.2	−20.1
	25	Victoria . . .	.	9	58 9.09	+ 1.27	− 39.01	39 47 51.45	+ 5 37.05	+ 49.0	9 57 31.35	. .	91 0 38.7	− 3.2
	26	Lalande 19809 .	.	9	5 12.34	+ 0.84	− 39.01	23 43 46.48	+ 5 37.92	+ 25.9	10 4 34.17	− 2.99	74 56 11.5	−16.0
	27	B. A. C. 3494 .	.	6	9 49.17	+ 2.22	− 39.01	71 13 53.25	+ 3 57.04	+ 2 51.6	10 9 12.38	− 2.89	122 27 3.1	−19.7
	28	γ¹ Leonis . . .	.	9	14 6.00	+ 0.68	− **38.98**	18 21 48.40	+ 5 12.73	+ 19.6	10 13 27.66	. .	69 33 41.9	+ 0.7
	29	9 Draconis (R) .	.	.	. . . .	. .	. .	217 19 48.58	+ 5 10.35	+ 44.9	. . . .	. .	13 40 37.4	+ 0.2
	30	9 Draconis. . .	.	9	25 47.88	− 4.63	− 39.02	322 29 52.50	+ 5 10.02	− 44.9	10 25 4.23	. .	13 40 38.8	+ 1.6
S.	31	ε Pegasi . . .	.	9	38 59.52	+ 0.93	− **39.48**	29 29 48.05	+ 3 28.98	+ 33.4	21 38 20.97	. .	80 40 11.6	− 0.3
	32	Sun I, N. . .	.	9	27 36.24	+ 1.25	− 39.57	41 59 53.85	+ 3 57.21	+ 52.9	23 26 57.92	+64.72	93 11 5.2	. .
	33	Sun II, S . .	.	3	29 45.70	+ 1.25	− 39.58	42 31 54.60	+ 4 9.20	+ 53.9	23 29 7.37	−64.73	93 43 18.9	. .
	34	Polaris . . .	.	5	16 7.20	−53.13	− 39.69	310 10 . .	. .	. .	1 14 34.38	. .	1 19 . .	. .
	35	β Arietis . . .	.	9	48 43.87	+ 0.68	− **39.75**	18 35 51.80	+ 3 49.73	+ 19.6	1 48 4.86	. .	69 46 22.3	+ 0.5
	36	α Arietis . . .	.	9	1 7.84	+ 0.61	− **39.64**	15 55 50.68	+ 3 29.15	+ 16.7	2 0 28.75	. .	67 5 57.7	+ 0.5
	37	Venus I, S. . .	.	9	11 31.61	+ 0.75	− 39.70	21 29 49.20	+ 5 34.62	+ 23.0	2 10 52.66	+ 1.06	72 42 8.0	. .
	38	Piazzi VI, 34 .	.	9	7 53.27	+ 2.58	− 39.83	83 55 51.05	+ 4 52.95	+ 8 35.2	6 7 16.02	− 1.28	135 15 40.4	−19.6
	39	μ Geminorum. .	.	9	16 27.22	+ 0.57	− **39.82**	16 13 48.08	+ 5 13.03	+ 17.3	6 15 47.96	. .	67 25 39.6	+ 0.9
	40	B. A. C. 2089 .	.	9	21 32.01	+ 2.34	− 39.84	78 57 51.25	+ 4 16.43	+ 4 55.5	6 20 54.51	− 1.47	130 13 24.4	−19.4
	41	γ Geminorum . .	.	9	31 31.63	+ 0.73	− **39.86**	22 17 53.62	+ 5 29.07	+ 24.3	6 30 52.51	. .	73 30 8.2	+ 1.3
	42	λ Urs. Min., S. P. .	.	7	41 26.60	+70.69	− 39.91	307 47 51.08	+ 3 39.37	− 1 15.9	19 41 57.38	. .	358 56 35.7	+ 0.6
	43	Moon I, N. . .	.	9	37 23.94	+ 0.79	− 39.95	24 5 51.98	+ 3 11.37	+ 26.5	8 36 44.78	+63.55	75 15 51.1	. .
	44	B. A. C. 3024 .	.	9	48 11.42	+ 2.36	− 39.96	79 15 50.98	+ 5 27.74	+ 5 5.4	8 47 33.82	− 2.51	130 32 45.3	−21.5
	45	κ Cancri . . .	.	9	2 0.00	+ 0.87	− **39.98**	27 39 47.32	+ 4 48.72	+ 31.2	9 1 20.90	. .	78 51 28.4	+ 0.9
	46	α Hydræ . . .	.	9	22 25.81	+ 1.33	− **40.06**	46 57 52.95	+ 3 39.31	+ 1 3.5	9 21 47.15	. .	98 8 57.0	+ 2.1
	47	D.M.+37°,2006.	8.8	8	28 51.12	+ 0.10	− 40.00	1 23 47.00	+ 5 25.63	+ 1.5	9 28 11.22	− 3.38	52 35 35.3	− 9.8
	48	D.M.+37°,2007.	8.8	6	29 0.76	+ 0.10	− 40.00	1 23 47.00	+ 5 28.65	+ 1.5	9 28 20.86	− 3.38	52 35 38.3	− 9.8
	49	Weisse (2) 1047.	.	9	51 11.10	+ 0.70	− 40.02	21 11 47.60	+ 4 26.83	+ 23.1	9 50 31.78	− 3.00	72 22 58.7	−14.9
	50	γ¹ Leonis . . .	.	9	14 7.04	+ 0.62	− **39.96**	18 21 46.15	+ 5 15.08	+ 19.8	10 13 27.62	. .	69 33 42.2	+ 1.1

).	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*		No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°				′ ″	′ ″	′ ″	′ ″
6	29.80	46.0	45.0			8	−18 53.1	+ 14 48.2	. .	− 4 4.9
0	29.83	44.5	43.5		ZENITH-POINT CORR.	32	− 5.9	+ 16 6.8	. .	+ 16 0.9
1	29.87	42.3	43.2			33	− 6.0	− 16 6.8	. .	− 16 12.8
3	29.86	40.5	45.2		″	37	− 5.8	− 15.3	. .	− 21.1
4	29.84	48.8	48.1	29, 30, 33, 40, 41. One bisection.	1 to 30 + 37.22	43	−22 4.6	+ 14 51.4	. .	− 7 13.2
7	29.83	48.8	48.9	42, 43. Three bisections.	31 to 37 + 35.84					
8	29.85	44.0	42.2	5, 37. Four bisections.	38 to 50 + 37.04					
9	29.83	40.3	38.9	8. Five bisections.						

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
March 13, W.	1	ε Leonis		9	39 50.69	+ 0.58	— **42.51**	14 29 48.22	+ 4 30.88	+ 15.3	9 39 8.83	. .	65 40 55.6	— 0.4
	2	μ Leonis		9	46 44.61	+ 0.52	— **42.37**	12 15 51.22	+ 3 46.98	+ 12.8	9 46 2.69	. .	63 26 12.2	— 0.7
	3	79 Draconis, S. P.		7	51 57.28	+ 5.04	— 42.44	291 59 50.50	+ 4 33.50	— 2 23.7	21 51 19.88	. .	343 8 21.5	0.0
	4	α Leonis		9	2 46.58	+ 0.87	— **42.49**	26 15 52.15	+ 4 40.56	+ 29.1	10 2 5.01	. .	77 27 23.0	+ 0.4
	5	Moon I, S.		9	12 51.63	+ 1.04	— 42.44	33 35 53.30	+ 3 14.82	+ 39.1	10 12 10.23	+62.57	84 46 8.4	. .
	6	9 Draconis (R)			. . .	. .	. .	217 19 48.58	+ 5 14.09	+ 44.9	. . . .	. .	13 40 33.6	— 2.7
	7	9 Draconis		4	25 51.19	— 3.93	— 42.44	322 29 48.48	+ 5 11.66	— 44.9	10 25 4.82	. .	13 40 36.4	+ 0.1
	8	ι Leonis		9	43 44.58	+ 0.90	— **42.39**	27 37 53.55	+ 5 4.08	+ 30.9	10 43 3.04	. .	78 49 49.7	+ 0.1
	9	Weisse (2) 1032		9	53 39.83	+ 0.21	— 42.44	2 5 50.55	+ 4 6.67	+ 2.2	10 52 57.60	— 3.36	53 16 20.6	—15.2
	10	Groom. 1822		9	40 4.84	— 0.26	— 42.44	350 29 49.28	+ 4 3.23	— 9.8	11 39 22.14	— 3.61	41 40 3.9	—16.8
14, R.	11	Lalande 12494		9	25 54.47	+ 0.79	— 42.95	27 11 48.62	+ 3 53.25	+ 30.8	6 25 12.31	— 2.12	78 22 33.9	— 6.0
	12	γ Geminorum		9	31 34.72	+ 0.67	— **42.94**	22 17 49.72	+ 5 31.14	+ 24.6	6 30 52.44	. .	73 30 6.7	— 0.2
	13	α Canis Majoris		9	40 37.53	+ 1.48	— **42.97**	55 21 51.38	+ 3 52.69	+ 1 26.6	6 39 56.05	. .	106 33 31.9	+ 0.5
	14	51 Cephei		7	45 47.63	—25.00	— 42.96	311 37 54.85	+ 2 55.38	— 1 7.1	6 44 39.67	. .	2 46 4.3	+ 0.7
	15	Lalande 13704		9	0 18.80	+ 0.16	— 42.96	4 37 53.95	+ 4 11.64	+ 4.9	6 59 36.00	— 2.71	55 48 31.7	— 0.2
	16	δ Canis Majoris		9	4 16.40	+ 1.75	— **43.11**	64 59 51.02	+ 4 17.82	+ 2 8.3	7 3 35.19	. .	116 12 38.3	+ 1.1
	17	B. A. C. 2378		9	8 55.04	+ 2.10	— 42.96	75 5 55.28	+ 5 0.79	+ 3 43.1	7 8 14.18	— 1.79	126 21 0.4	—20.5
	18	Stone 3526	6.5	5	11 57.37	+ 2.10	— 42.96	75 5 55.28	+ 5 14.11	+ 3 43.2	7 11 16.51	— 1.82	126 21 13.8	—20.6
	19	B. A. C. 2413	4	9	13 18.18	+ 2.10	— 42.96	75 6 . .	. .	. .	7 12 37.32	— 1.82	126 23 . .	. .
	20	B. A. C. 2458		8	20 6.53	+ 1.84	— 42.97	67 51 52.22	+ 3 58.15	+ 2 27.0	7 19 25.40	— 1.94	119 4 38.6	—19.6
	21	a^1 Geminorum		6	27 45.45	+ 0.23	— 42.97	6 39 49.18	+ 4 56.87	+ 7.1	7 27 2.71	— 2.80	57 51 14.3	— 2.6
	22	a^2 Geminorum		5	27 45.77	+ 0.23	— **42.82**	6 39 49.18	+ 4 52.71	+ 7.1	7 27 3.03	. .	57 51 10.2	+ 0.5
E.	23	ε Pegasi		9	39 3.87	+ 0.79	— **43.62**	29 30 . .	. .	. .	21 38 20.98	. .	80 40 . .	. .
	24	α Aquarii		9	0 23.63	+ 1.00	— **43.76**	39 42 . .	. .	. .	21 59 40.93	. .	90 54 . .	. .
15	25	Sun I, S.		9	42 19.30	+ 1.05	— 43.76	40 57 57.35	+ 3 33.87	+ 51.3	23 41 36.59	+64.64	92 8 43.7	. .
	26	Sun II, N.		5	44 28.58	+ 1.05	— 43.76	40 25 55.40	+ 3 28.27	+ 50.3	23 43 45.87	—64.64	91 36 35.2	. .
	27	Polaris		5	16 4.08	—44.62	— 43.82	310 10 . .	. .	. .	1 14 35.64	. .	1 19 . .	. .
	28	β Arietis		9	48 48.07	+ 0.59	— **43.89**	18 36 . .	. .	. .	1 48 4.81	. .	69 46 . .	. .
	29	α Arietis		9	1 12.06	+ 0.53	— **43.81**	15 56 . .	. .	. .	2 0 28.74	. .	67 6 . .	. .
	30	Venus I, S.		9	23 23.70	+ 0.63	— 43.87	20 3 50.62	+ 5 16.36	+ 21.4	2 22 40.46	+ 1.14	61 15 49.6	. .
	31	γ Geminorum		9	31 35.72	+ 0.66	— **43.94**	22 17 53.25	+ 5 29.64	+ 24.4	6 30 52.41	. .	73 30 8.5	+ 1.6
	32	Weisse (2) 1227		9	42 42.24	+ 0.27	— 43.97	6 5 51.98	+ 3 17.34	+ 6.4	6 41 58.54	— 2.56	57 15 36.9	+ 0.4
	33	51 Cephei		6	45 44.23	—21.05	— 43.97	311 37 57.10	+ 2 52.76	— 1 6.6	6 44 39.21	. .	2 46 4.5	+ 1.0
	34	ε Canis Majoris		9	54 41.04	+ 1.67	— **43.98**	67 35 53.20	+ 4 21.80	+ 2 23.6	6 53 58.74	. .	118 48 59.8	+ 0.8
	35	Lalande 13704		9	0 19.77	+ 0.23	— 43.97	4 37 50.92	+ 4 14.30	+ 4.9	6 59 36.03	— 2.69	55 48 31.3	— 0.2
	36	δ Geminorum		9	13 46.88	+ 0.54	— **43.98**	16 37 53.48	+ 3 32.95	+ 17.8	7 13 3.45	. .	67 48 5.4	+ 0.4
23, S.	37	51 Cephei, S. P.		1	44 42.10	+ 6.54	— 12.99	306 4 . .	. .	. .	6 44 35.65	. .	357 14 . .	. .
	38	ζ Aquilæ		9	0 10.50	+ 0.25	— **12.97**	25 8 . .	. .	. .	18 59 57.75	. .	76 19 . .	. .
	39	δ Draconis		9	12 44.16	— 0.45	— 13.00	331 22 . .	. .	. .	19 12 30.71	. .	22 33 . .	. .
	40	δ Aquilæ		9	19 43.99	+ 0.32	— **13.03**	35 56 . .	. .	. .	19 19 31.31	. .	87 7 . .	. .
	41	Moon II		9	35 19.23	+ 0.48	— 13.01	58 42 . .	. .	. .	19 35 6.70	—71.60	109 6 . .	. .
	42	γ Aquilæ		9	40 50.04	+ 0.27	— **13.00**	28 40 . .	. .	. .	19 40 37.30	. .	79 41 . .	. .
	43	α Aquilæ		9	45 12.56	+ 0.28	— **13.02**	30 16 . .	. .	. .	19 44 59.83	. .	81 27 . .	. .
24, R.	44	Sun I, S.		9	14 36.33	+ 0.36	— 13.33	37 23 57.62	+ 4 33.94	+ 44.3	0 14 23.36	+64.35	88 35 37.1	. .

No.	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*	No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°			′ ″	′ ″	′ ″	′ ″
1	29.85	43.4	44.6		5	—30 23.4	— 15 3.7	. .	— 45 27.1
10	29.87	43.2	42.2	ZENITH-POINT CORR.	25	— 5.8	— 16 4.2	. .	— 16 10.0
12	30.20	42.5	40.7		26	— 5.7	+ 16 4.3	. .	+ 15 58.6
20	30.22	41.4	39.5	″	30	— 5.7	— 16.1	. .	— 21.8
22	30.26	40.6	38.8	27. One bisection. 1 to 10 + 36.42	44	— 5.4	— 16 2.0	. .	— 16 7.4
23	30.36	63.0	40.0	5. Three bisections. 11 to 22 + 36.80					
26	30.32	48.7	49.3	8, 30, 32. Four bisections. 23 to 36 + 35.97					
30	30.27	52.8	54.0	14. Five bisections. 44 + 34.38					
31	30.24	47.0	45.0	22. Barometer and thermometers observed at $9^h.5$.					
36	30.23	46.5	44.5	23. Barometer and thermometers from meteorological record.					

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
March	1	Sun II, N.		9	16 45.04	+ 0.36	— 13.33	36 51 54.75	+ 4 33.70	+ 43.4	0 16 32.07	—64.36	88 3 33.0	. .
, R.	2	Polaris		4	14 54.95	—11.28	— 13.33	310 10 4.15	+ 3 59.19	— 1 7.8	1 14 30.34	. .	1 19 16.7	— 0.3
	3	α Arietis		6	0 41.78	+ 0.22	**— 13.28**	15 55 56.20	+ 3 26.09	+ 16.4	2 0 28.67	. .	67 5 59.9	+ 1.5
	4	α Ceti		9	56 17.41	+ 0.35	**— 13.38**	35 11 54.65	+ 3 46.06	+ 40.5	2 56 4.43	. .	86 22 42.4	+ 1.7
	5	γ Geminorum		9	31 5.33	+ 0.24	**— 13.30**	22 17 56.00	+ 5 27.01	+ 23.9	6 30 52.24	. .	73 30 8.1	+ 1.2
	6	α Canis Majoris		9	40 8.71	+ 0.49	**— 13.36**	55 21 54.05	+ 3 55.02	+ 1 24.0	6 39 55.86	. .	106 33 34.3	+ 2.5
	7	51 Cephei		8	44 54.58	— 5.61	— 13.34	311 37 57.35	+ 2 51.32	— 1 5.1	6 44 35.63	. .	2 46 4.8	+ 1.6
	8	ε Canis Majoris		8	54 11.28	+ 0.60	**— 13.35**	67 35 56.88	+ 4 21.52	+ 2 20.5	6 53 58.54	. .	118 49 0.1	+ 0.6
	9	B. A. C. 2378		9	8 26.54	+ 0.69	— 13.35	75 5 58.22	+ 5 4.77	+ 3 36.5	7 8 13.88	— 1.55	126 21 0.7	—21.3
	10	B. A. C. 2413		9	12 49.67	+ 0.69	— 13.36	75 5 58.22	+ 7 16.59	+ 3 37.0	7 12 37.00	— 1.58	126 23 13.0	—21.5
	11	B. A. C. 2478		9	24 43.92	+ 0.63	— 13.36	69 59 54.25	+ 4 9.16	+ 2 39.3	7 24 31.19	— 1.74	121 13 3.9	—21.0
	12	B. A. C. 2502	6.2	8	29 47.18	+ 0.69	— 13.37	74 53 54.15	+ 1 24.55	+ 3 33.0	7 29 34.50	— 1.72	126 5 12.9	—22.0
	13	Stone 3761	7.3	9	33 19.09	+ 0.68	— 13.37	74 53 54.15	+ 5 33.80	+ 3 34.1	7 33 6.40	— 1.74	126 9 23.3	—22.1
	14	B. A. C. 2536	5.7	3	34 39.76	+ 0.68	— 13.37	74 53 54.15	+10 5.88	+ 3 35.2	7 34 27.07	— 1.75	126 13 56.4	—22.2
	15	λ Ursæ Min., S. P.		3	42 8.43	+15.75	— 13.38	307 47 55.15	+ 3 33.67	— 1 15.0	19 42 10.80	. .	358 56 35.0	+ 1.8
	16	Groom. 1400		9	58 17.93	— 0.54	— 13.39	328 45 56.58	+ 4 26.81	— 35.3	7 58 4.00	— 5.05	19 56 9.3	+ 7.1
	17	O. Arg. N. 8685	9.3	9	5 40.64	— 0.54	— 13.39	328 45 56.58	+ 5 3.66	— 35.3	8 5 26.71	— 5.11	19 56 46.1	+ 6.6
	18	Mer. C. Z. 168, 6	6.7	8	11 43.48	+ 0.67	— 13.39	74 15 55.32	+ 6 58.44	+ 3 26.2	8 11 30.76	— 2.03	125 32 41.2	—23.0
	19	M. Z. 232, 21	8.2	8	11 57.02	+ 0.67	— 13.39	74 15 55.32	+ 5 44.84	+ 3 26.0	8 11 44.30	— 2.03	125 31 27.4	—23.0
	20	Anonymous	9.5	9	14 57.79	+ 0.67	— 13.40	74 15 55.32	+ 6 46.57	+ 3 26.3	8 14 45.06	— 2.06	125 32 29.4	—23.0
	21	B. A. C. 2890			. . .	. .	. .	77 11 54.22	+ 4 28.09	+ 4 13.7	8 29 . .	. .	128 26 57.2	—23.6
	22	B. A. C. 2980	6.5	9	42 20.86	+ 0.65	— 13.41	72 57 58.58	+ 4 7.27	+ 3 9.8	8 42 8.10	— 2.26	124 11 36.8	—23.2
	23	B. A. C. 3030		9	48 30.56	+ 0.70	— 13.42	77 1 53.75	+ 4 33.24	+ 4 10.8	8 48 17.84	— 2.29	128 16 59.0	—23.8
	24	σ^2 Ursæ Majoris (R)			. . . .	. .	. .	208 39 51.72	+ 2 58.61	+ 32.1	. . . .	. .	22 22 58.8	— 1.4
	25	σ^2 Ursæ Majoris		6	0 13.40	— 0.46	— 13.42	331 13 52.38	+ 3 21.32	— 32.1	8 59 59.52	. .	22 23 2.8	+ 2.6
	26	B. A. C. 3162	4	9	11 42.74	+ 0.07	— 13.43	1 29 52.82	+ 5 33.16	+ 1.6	9 11 29.38	— 3.19	52 41 48.8	— 7.0
	27	Anonymous	11.0	9	23 16.43	+ 0.17	— 13.44	14 29 50.98	+ 6 20.36	+ 15.3	9 23 3.16	— 2.94	65 42 47.8	—11.2
	28	γ^1 Leonis		9	13 40.84	+ 0.19	**— 13.39**	18 21 53.65	+ 5 7.06	+ 19.6	10 13 27.56	. .	69 33 41.5	+ 1.3
	29	9 Draconis		9	25 18.73	— 0.98	— 13.48	322 29 51.15	+ 5 7.59	— 45.0	10 25 4.27	. .	13 40 34.9	+ 1.6
	30	Anonymous			. . . .	. .	. .	45 13 55.80	+ 7 48.48	+ 59.6	10 36 . .	. .	96 29 5.1	—19.9
	31	Anonymous			. . . .	. .	. .	45 13 55.80	+ 2 57.12	+ 59.4	10 37 . .	. .	96 24 13.5	—19.9
	32	Melete			. . . .	. .	. .	36 19 54.00	+ 5 18.11	+ 43.4	10 46 . .	. .	87 32 16.7	— 2.8
	33	δ Crateris		9	13 39.61	+ 0.45	**— 13.57**	52 55 56.35	+ 4 51.30	+ 1 18.1	11 13 26.55	. .	104 8 26.9	+ 1.0
	34	τ Leonis		9	22 5.20	+ 0.31	**— 13.51**	35 17 57.55	+ 4 37.27	+ 41.9	11 21 52.00	. .	86 29 37.9	— 0.1
	35	υ Leonis		9	31 7.54	+ 0.34	**— 13.54**	38 57 57.68	+ 5 14.34	+ 47.9	11 30 54.36	. .	90 10 21.1	+ 0.7
	36	B. A. C. 3981 (R)			. . . .	. .	. .	189 27 53.22	+ 4 23.15	+ 9.9	. . . .	. .	41 33 54.9	—14.3
	37	B. A. C. 3981			. . . .	. .	. .	350 23 54.02	+ 3 49.42	— 9.9	11 40 . .	. .	41 33 54.7	—14.3
	38	ο Virginis			. . . .	. .	. .	29 25 55.05	+ 3 51.21	+ 33.5	11 59 . .	. .	80 36 41.0	+ 0.1
	39	Baucis	12.5	9	10 35.89	+ 0.41	— 13.54	49 59 53.20	+ 3 25.73	+ 1 10.6	12 10 22.76	. .	101 10 50.7	— 4.2
	40	Lutetia	10.5	9	18 13.71	+ 0.30	— 13.55	35 35 53.75	+ 4 38.54	+ 42.5	12 18 0.46	. .	86 47 36.0	— 3.0
W.	41	α Andromedæ		5	2 28.60	+ 0.20	**— 14.13**	10 24 . .	. .	. .	0 2 14.67	. .	61 34 . .	. .
	42	Sun I, S.		9	18 15.16	+ 0.44	— 14.13	36 59 54.38	+ 5 4.72	+ 43.3	0 18 1.47	+64.36	88 12 3.6	. .
	43	Sun II, N.		9	20 23.88	+ 0.44	— 14.13	36 27 54.88	+ 5 1.25	+ 42.4	0 20 10.19	—64.36	87 39 59.7	. .
	44	β Andromedæ		9	3 18.68	+ 0.15	**— 14.06**	3 49 51.18	+ 4 16.50	+ 3.9	1 3 4.70	. .	55 0 32.8	+ 0.1
	45	Polaris		5	14 58.37	—15.04	— 14.13	310 9 51.10	+ 4 12.55	— 1 7.2	1 14 29.20	. .	1 19 17.6	+ 0.3
	46	β Arietis		9	48 18.59	+ 0.29	**— 14.16**	18 35 55.00	+ 3 48.02	+ 19.2	1 48 4.75	. .	69 46 23.4	+ 0.5
	47	α Arietis		9	0 42.51	+ 0.27	**— 14.06**	15 55 53.32	+ 3 29.66	+ 16.3	2 0 28.65	. .	67 6 0.5	+ 2.0
	48	γ Ceti		9	37 22.62	+ 0.45	**— 14.24**	36 3 56.60	+ 4 59.84	+ 41.5	2 37 8.94	. .	87 15 59.1	+ 0.4
	49	B. A. C. 872		9	43 13.64	+ 0.23	— 14.13	12 1 51.40	+ 5 23.00	+ 12.2	2 42 59.74	— 0.88	63 13 47.8	+ 5.9

Barom.	At. Ther.	Ex. Ther.
in.	°	°
29.68	47.7	49.3
29.67	50.4	51.8
29.67	52.4	52.4
29.67	52.3	52.3
29.72	48.3	47.7
29.74	46.3	44.2
29.75	46.6	43.2
29.74	44.2	41.5
29.75	44.4	41.5
29.74	42.7	39.8
29.76	42.2	38.5
29.76	41.8	38.2
29.80	51.9	55.6
29.79	52.9	55.3
29.77	54.9	57.6

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

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11, 19, 30, 32. One bisection. 1 to 4 + 34.38

5, 10, 12, 15, 16, 17. Three bisections. 5 to 40 + 35.87

2, 26, 46. Four bisections. 42 to 49 + 35.74

7, 29, 45. Five bisections.

40. Barom. and therms. observed at 12h.5.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
1	— 5.3	+ 16 2.0	. .	+ 15 56.7
42	— 5.3	— 16 1.9	. .	— 16 7.2
43	— 5.3	+ 16 2.0	. .	+ 15 56.7

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
March 25, W.	1	Venus I, S.		9	48 9.63	+ 0.29	− 14.13	17 3 52.82	+ 4 39.21	+ 17.5	2 47 55.79	+ 1.35	68 15 10.7	. .
	2	B. A. C. 953		9	57 48.21	+ 0.12	− 14.13	0 25 54.28	+ 4 56.29	+ 0.5	2 57 34.20	− 0.96	51 37 12.3	+ 8.7
	3	B. A. C. 962			. . .	. .	. .	349 39 51.42	+ 4 22.07	− 10.3	3 0 . .	. .	40 50 24.4	+11.3
	4	α Persei		9	16 5.19	− 0.03	− 14.13	349 23 52.92	+ 3 34.56	− 10.6	3 15 51.03	. .	40 33 38.1	+ 0.1
	5	Anonymous		9	26 18.70	+ 0.33	− 14.36	32 41 54.78	+ 3 2.47	+ 37.4	8 26 4.67	− 2.46	83 51 55.8	−13.6
	6	D. M. +20°, 2165		6	33 47.48	+ 0.19	− 14.36	18 43 53.38	+ 3 14.20	+ 19.8	8 33 33.31	− 2.68	69 53 48.6	− 9.8
	7	Bradley 1224		5	33 48.82	+ 0.19	− 14.36	18 43 53.38	+ 4 14.64	+ 19.8	8 33 34.65	− 2.68	69 54 49.0	− 9.8
	8	ε Hydræ		9	40 45.01	+ 0.32	**− 14.37**	31 57 56.20	+ 4 3.46	+ 36.4	8 40 30.97	. .	83 8 57.3	− 1.0
	9	ι Urs. Maj. (R)			. . . .	. .	. .	189 31 51.88	+ 4 46.15	+ 9.9	. . . .	. .	41 29 33.3	− 1.3
	10	ι Urs. Maj.		1	51 21.40	− 0.19	− 14.36	350 19 52.00	+ 3 33.26	− 9.9	8 51 6.85	. .	41 29 36.6	+ 2.0
	11	κ Cancri		9	1 34.82	+ 0.27	**− 14.34**	27 39 54.22	+ 4 42.51	+ 30.7	9 1 20.73	. .	78 51 28.6	+ 1.3
	12	B. A. C. 3146		9	8 26.98	+ 0.35	− 14.36	35 59 54.12	+ 4 22.62	+ 42.5	9 8 12.97	− 2.60	87 11 20.4	−16.2
	13	α Cephei, S. P.		9	15 56.80	+ 1.05	− 14.36	280 59 51.52	+ 3 24.67	− 4 50.1	21 15 43.49	. .	332 4 47.3	+ 0.3
27, R.	14	ε Pegasi		9	38 35.99	+ 0.33	**− 15.03**	29 29 55.08	+ 3 24.08	+ 33.2	21 38 21.22	. .	80 40 13.6	+ 1.4
	15	α Aquarii		9	59 55.78	+ 0.41	**− 15.09**	39 41 53.98	+ 4 44.58	+ 48.6	21 59 41.09	. .	90 53 48.4	+ 0.2
	16	ζ Pegasi		9	35 47.07	+ 0.34	**− 15.13**	28 35 57.68	+ 4 30.68	+ 31.8	22 35 32.32	. .	79 47 21.4	+ 0.8
	17	ι Cephei		9	45 40.86	− 0.30	− 15.08	333 15 57.65	+ 3 42.74	− 29.2	22 45 25.48	. .	24 25 32.4	+ 1.1
	18	α Piscis Aust.		9	51 19.39	+ 0.67	**− 15.12**	69 1 55.78	+ 4 10.38	+ 2 30.9	22 51 4.98	. .	120 14 58.3	− 2.6
	19	α Pegasi		9	59 5.34	+ 0.32	**− 15.08**	24 15 56.75	+ 3 20.36	+ 26.2	22 58 50.58	. .	75 26 4.5	+ 0.8
28	20	Sun I, S.		9	29 10.50	+ 0.41	− 15.06	35 49 53.02	+ 4 42.01	+ 41.6	0 28 55.85	+64.41	87 1 37.8	. .
	21	Sun II, N.		9	31 19.33	+ 0.41	− 15.06	35 18 0.60	+ 4 30.45	+ 40.8	0 31 4.68	−64.42	86 29 33.0	. .
	22	β Andromedæ		9	3 19.54	+ 0.19	**− 14.95**	3 49 53.20	+ 4 15.86	+ 3.9	1 3 4.68	. .	55 0 34.2	+ 0.9
	23	Polaris		8	14 53.74	−10.70	− 15.04	310 9 54.52	+ 4 11.52	− 1 7.9	1 14 28.04	. .	1 19 19.3	+ 1.1
	24	α Arietis		9	0.43.48	+ 0.29	**− 15.07**	15 55 55.68	+ 3 27.46	+ 16.4	2 0 28.74	. .	67 6 0.7	+ 2.0
	25	Venus I, S.		9	54 12.60	+ 0.29	− 15.02	16 19 53.15	+ 5 43.90	+ 16.9	2 53 57.87	+ 1.42	67 32 15.1	. .
	26	α Ceti		6	56 19.00	+ 0.42	**− 15.08**	35 11 56.40	+ 3 44.18	+ 40.5	2 56 4.40	. .	86 22 42.3	+ 1.7
	27	α Persei		9	16 5.91	+ 0.06	− 15.01	349 23 54.70	+ 3 33.36	− 10.7	3 15 50.96	. .	40 33 38.6	0.0
	28	γ Geminorum		4	31 6.96	+ 0.27	**− 15.03**	22 17 55.72	+ 5 29.67	+ 23.7	6 30 52.02	. .	73 30 10.3	+ 3.4
	29	α Canis Majoris		9	40 10.41	+ 0.52	**− 15.17**	55 21 54.48	+ 3 56.04	+ 1 23.2	6 39 55.73	. .	106 33 34.9	+ 3.0
	30	51 Cephei		7	44 54.86	− 5.66	− 15.20	311 37 57.72	+ 2 49.93	− 1 4.5	6 44 34.00	. .	2 46 4.3	+ 1.3
	31	ε Canis Majoris		9	54 13.07	+ 0.65	**− 15.28**	67 35 56.82	+ 4 23.02	+ 2 19.2	6 53 58.53	. .	118 49 0.2	+ 0.5
	32	Lalande 13704	6.2	9	59 50.67	+ 0.12	− 15.19	4 37 55.90	+ 4 10.81	+ 4.7	6 59 35.60	− 2.42	55 48 32.6	+ 0.2
	33	δ Canis Majoris		9	3 49.42	+ 0.62	**− 15.30**	64 59 54.48	+ 4 20.33	+ 2 3.4	7 3 34.86	. .	116 12 39.4	+ 1.4
	34	O. Arg. N. 9001	8.6	9	21 20.98	− 0.08	− 15.13	347 43 55.45	+ 6 24.14	− 12.5	8 21 5.77	− 3.40	38 56 28.3	+ 0.8
	35	O. Arg. N. 9058	8.4	9	24 31.99	− 0.08	− 15.13	347 43 55.45	+ 6 0.25	− 12.5	8 24 16.78	− 3.41	38 56 4.4	+ 0.6
	36	B. A. C. 2900		9	31 6.83	+ 0.78	− 15.12	78 17 55.08	+ 5 20.36	+ 4 34.7	8 30 52.49	− 2.07	129 34 11.3	−24.3
	37	B. A. C. 3053		4	51 34.32	+ 0.30	− 15.11	28 57 56.48	+ 4 44.45	+ 32.2	8 51 19.51	− 2.57	80 9 34.3	−13.6
	38	κ Cancri		9	1 35.51	+ 0.30	**− 15.10**	27 39 54.18	+ 4 44.45	+ 30.6	9 1 20.71	. .	78 51 30.4	+ 3.1
29, W.	39	Anonymous		9	11 21.63	− 0.04	− 15.71	356 43 54.58	+ 3 21.99	− 3.3	8 11 5.88	− 2.99	47 53 34.5	− 1.2
	40	B. A. C. 2809		9	17 23.32	+ 0.57	− 15.72	77 59 51.28	+ 4 14.04	+ 4 27.4	8 17 8.17	− 1.94	129 14 53.9	−24.2
	41	η Cancri		9	26 7.87	+ 0.11	**− 15.80**	17 57 56.92	+ 4 52.76	+ 18.9	8 25 52.25	. .	69 9 29.8	+ 0.2
	42	Groom. 3241, S. P.		9	30 43.71	+ 0.85	− 15.74	290 59 53.12	+ 3 48.62	− 2 29.6	20 30 28.82	. .	342 7 33.3	+ 1.7
	43	ε Hydræ		9	40 46.51	+ 0.20	**− 15.81**	31 57 57.30	+ 4 5.04	+ 36.4	8 40 30.96	. .	83 8 59.9	+ 1.7
	44	B. A. C. 2980		4	42 23.45	+ 0.51	− 15.75	72 57 55.22	+ 4 13.89	+ 3 8.2	8 42 8.21	− 2.16	124 11 38.5	−23.8
	45	B. A. C. 3053		9	51 35.08	+ 0.17	− 15.76	28 57 56.78	+ 4 41.00	+ 32.3	8 51 19.49	− 2.56	80 9 31.3	−13.6
	46	κ Cancri		9	1 36.31	+ 0.16	**− 15.78**	27 39 53.95	+ 4 42.73	+ 30.6	9 1 20.69	. .	78 51 28.5	+ 1.3
	47	B. A. C. 3162²		9	11 45.06	− 0.01	− 15.79	1 29 50.80	+ 5 36.85	+ 1.6	9 11 29.26	− 3.11	52 41 50.4	− 6.4
	48	1 Draconis (R)			. . . .	. .	. .	222 51 51.92	+ 4 41.68	+ 54.2	. . . .	. .	8 8 53.4	− 2.0
	49	1 Draconis		6	20 29.01	− 1.61	− 15.80	316 59 50.52	+ 3 39.35	− 54.2	9 20 11.60	. .	8 8 56.9	+ 1.5
	50	D. M. +37°, 2006		6	28 26.88	− 0.01	− 15.81	1 23 51.90	+ 5 18.68	+ 1.5	9 28 11.06	− 3.16	52 35 33.3	− 7.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
5	29.81	50.2	47.9
13	29.80	48.3	46.0
14	29.83	41.9	45.7
16	29.84	45.6	48.9
19	29.85	46.8	49.6
21	29.85	49.7	54.4
23	29.83	52.2	54.0
25	29.82	54.4	55.7
27	29.82	55.3	55.9
28	29.80	53.7	54.1
33	29.81	52.7	51.6
36	29.81	51.5	49.4
39	29.56	47.9	45.6
47	29.56	45.7	42.7

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR. ″

6, 7, 13, 16, 48. One bisection. 1 to 4 + 35.74
25, 35, 49. Three bisections. 5 to 13 + 35.48
1, 27. Four bisections. 14 to 27 + 35.60
23, 30. Five bisections. 28 to 38 + 37.35
39 to 50 + 36.26

25. Barom. and thermometers observed at $2^h.6$

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
1	− 5.6	− 18.7	. .	− 24.3
20	− 5.2	− 16 2.4	. .	− 16 7.6
21	− 5.1	+ 16 2.3	. .	+ 15 57.2
25	− 5.7	− 19.5	. .	− 25.2

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
March 29, W.	1	D M. +37°, 2007	.	6	28 36.68	− 0.01	− 15.81	1 23 51.90	+ 5 23.61	+ 1.5	9 28 20.86	− 3.16	52 35 38.2	− 7.4
	2	ε Leonis . . .	.	9	39 24.38	+ 0.08	**− 15.85**	14 29 51.60	+ 4 28.11	+ 15.2	9 39 8.64	. .	65 40 56.1	+ 1.5
	3	Anonymous . .	8.5	9	46 27.64	+ 0.17	− 15.83	28 29 53.22	+ 3 51.20	+ 31.8	9 46 12.98	− 2.77	79 40 37.4	−15.6
	4	B. A. C. 3452 .	.	9	0 44.11	+ 0.45	− 15.85	69 5 56.50	+ 4 20.69	+ 2 32.3	10 0 28.71	− 2.68	120 19 10.7	−23.5
	5	γ^1 Leonis . . .	.	9	13 43.20	+ 0.10	**− 15.70**	18 21 52.50	+ 5 7.30	+ 19.5	10 13 27.43	. .	69 33 40.5	+ 0.7
	6	46 Leonis . . .	.	9	46 58.28	− 0.01	− 15.91	3 57 57.38	+ 4 30.46	+ 4.1	10 46 42.36	− 3.26	55 8 53.1	−12.6
	7	Weisse (2) 1032.	.	9	53 13.34	− 0.02	− 15.91	2 5 54.50	+ 4 0.66	+ 2.2	10 52 57.41	− 3.30	53 16 18.6	−12.6
	8	B. A. C. 3945 .	.	9	30 59.69	+ 0.47	− 15.96	71 39 52.30	+ 5 50.36	+ 2 55.5	11 30 44.20	− 3.17	122 54 59.4	−21.4
	9	Groom. 1822.	.	9	39 38.13	− 0.13	− 15.97	350 29 51.85	+ 3 58.35	− 9.7	11 39 22.03	− 3.62	41 40 1.7	−13.2
	10	B. A. C. 4002 .	.	5	44 48.47	+ 0.21	− 15.98	36 21 52.45	+ 5 17.08	+ 43.2	11 44 32.70	− 3.00	87 34 13.9	−19.4
	11	o Virginis (R) .	.	.	. . .	. .	. .	150 25 56.32	+ 4 16.50	− 33.1	. . . .	. .	80 36 41.5	+ 0.9
	12	o Virginis . . .	.	.	. . .	. .	. .	29 25 54.75	+ 3 52.42	+ 33.1	11 59 . .	. .	80 36 41.5	+ 0.9
	13	Egeria . . .	.	9	8 5.44	+ 0.10	− 16.01	19 1 51.35	+ 5 23.89	+ 20.3	12 7 49.53	. .	70 13 56.7	− 1.9
	14	η Virginis . . .	.	9	14 7.93	+ 0.22	**− 16.04**	38 47 57.60	+ 5 34.46	+ 47.2	12 13 52.13	. .	90 0 40.5	+ 1.4
	15	n^2 Can. Ven. . .	.	9	50 47.01	− 0.05	**− 16.13**	359 51 52.25	+ 4 25.55	− 0.1	12 50 30.90	. .	51 2 38.9	+ 1.7
	16	Polaris, S. P. . .	.	7	14 32.70	+11.66	− 16.09	307 31 51.45	+ 3 47.05	− 1 15.9	1 14 28.27	. .	358 40 43.8	+ 2.6
	17	α Virginis . . .	.	9	19 14.30	+ 0.28	**− 16.00**	49 19 53.40	+ 5 19.46	+ 1 8.2	13 18 58.46	. .	100 32 42.3	+ 1.1
April 2, W.	18	δ Persei . . .	.	9	34 46.72	− 0.15	**− 18.07**	351 25 57.70	+ 3 22.94	− 8.9	3 34 28.62	. .	42 35 32.9	+ 2.3
	19	η Tauri. . . .	.	9	40 43.82	− 0.13	**− 17.93**	15 3 56.62	+ 5 15.07	+ 16.1	3 40 25.74	. .	66 15 49.0	+ 1.9
	20	ζ Persei . . .	.	9	46 58.44	− 0.14	**− 17.85**	7 17 58.90	+ 3 43.57	+ 7.7	3 46 40.35	. .	58 28 11.4	+ 0.7
	21	Moon I . . .	.	9	52 49.28	− 0.13	− 17.95	17 6 . .	. .	. .	3 52 31.20	+68.16	68 0 . .	. .
	22	B. A. C. 2772 .	.	9	8 22.02	− 0.05	− 18.01	75 23 57.48	+ 4 13.93	+ 3 48.8	8 8 3.96	− 1.80	126 38 21.4	−23.9
	23	η Cancri . . .	.	9	26 10.23	− 0.16	**− 17.96**	17 57 58.42	+ 4 51.18	+ 19.6	8 25 52.06	. .	69 9 30.4	+ 1.0
	24	ε Hydræ . . .	.	9	40 49.03	− 0.14	**− 18.04**	31 58 1.30	+ 3 59.30	+ 37.7	8 40 30.88	. .	83 8 59.5	+ 1.3
	25	B. A. C. 3030 .	.	9	48 35.44	− 0.04	− 18.01	77 1 54.30	+ 4 27.82	+ 4 18.1	8 48 17.39	− 2.11	128 17 1.4	−25.0
	26	12 Y. Cat. 1879, S. P.	.	9	53 9.77	− 0.08	− 18.02	298 57 57.75	+ 3 40.37	− 1 48.3	20 52 51.67	. .	350 6 11.0	+ 1.5
	27	κ Cancri . . .	.	9	1 38.76	− 0.15	**− 17.97**	27 39 56.18	+ 4 40.53	+ 31.7	9 1 20.59	. .	78 51 29.6	+ 2.5
	28	B. A. C. 3162^2 .	.	9	11 47.30	− 0.18	− 18.02	1 29 53.02	+ 5 34.14	+ 1.7	9 11 29.10	− 3.04	52 41 50.1	− 6.0
	29	α Hydræ . . .	.	9	22 5.06	− 0.11	**− 18.09**	46 58 0.35	+ 3 31.30	+ 1 4.7	9 21 46.93	. .	98 8 57.5	+ 1.2
	30	Piazzi IX, 142 .	.	9	32 23.26	− 0.06	− 18.02	70 26 0.45	+ 3 54.23	+ 2 48.9	9 32 5.18	− 2.45	121 39 4.8	−24.3
	31	B. A. C. 3346 .	.	9	42 53.66	− 0.23	− 18.03	339 13 56.98	+ 4 18.00	− 22.8	9 42 35.40	− 4.12	30 24 13.4	− 1.8
4, S.	32	κ Cancri . . .	.	9	1 39.24	+ 0.02	**− 18.65**	27 39 55.60	+ 4 39.83	+ 31.6	9 1 20.68	. .	78 51 28.2	+ 1.2
	33	α Cephei, S. P. .	.	9	16 2.63	− 0.08	− 18.60	280 59 53.90	+ 3 31.08	− 4 58.7	21 15 42.95	. .	332 4 47.5	+ 1.9
	34	1 Draconis. . .	.	8	20 28.79	+ 0.09	− 18.60	316 59 54.45	+ 3 37.18	− 55.8	9 20 10.28	. .	8 8 57.0	+ 2.6
	35	Piazzi IX, 142 .	.	9	32 23.62	+ 0.07	− 18.61	70 25 59.68	+ 3 55.69	+ 2 48.0	9 32 5.08	− 2.42	121 39 4.6	−24.6
	36	μ Leonis . . .	.	9	46 21.16	+ 0.02	**− 18.64**	12 15 57.22	+ 3 39.61	+ 13.1	9 46 2.53	. .	63 26 11.1	+ 0.3
	37	B. A. C. 3452 .	.	9	0 47.04	+ 0.07	− 18.64	69 5 58.48	+ 4 13.73	+ 2 36.8	10 0 28.47	− 2.61	120 19 10.2	−24.4
	38	B. A. C. 3527 .	.	9	13 45.61	+ 0.09	− 18.65	79 48 0.10	+ 5 0.80	+ 5 26.0	10 13 27.05	− 2.76	131 4 48.1	−25.4
	39	B. A. C. 3552 .	.	9	17 34.77	+ 0.08	− 18.66	79 48 0.10	+ 3 44.61	+ 5 25.3	10 17 16.19	− 2.79	131 3 31.2	−25.3
	40	ρ Leonis . . .	.	9	26 54.10	+ 0.02	**− 18.58**	28 53 56.98	+ 4 19.77	+ 33.3	10 26 35.45	. .	80 5 11.3	+ 0.9
	41	Weisse 520 . .	.	9	30 58.23	+ 0.03	− 18.67	50 23 58.08	+ 4 21.45	+ 1 12.8	10 30 39.59	− 2.76	101 35 53.5	−21.3
	42	Tr. Z. 11, 7 . .	.	9	21 7.23	+ 0.07	− 18.72	74 59 55.85	+ 4 6.03	+ 3 42.4	11 20 48.58	− 3.15	126 14 5.5	−23.1
	43	B. A. C. 3934 .	.	9	29 4.42	+ 0.06	− 18.73	71 1 55.72	+ 1 15.76	+ 2 54.0	11 28 45.75	− 3.13	122 12 26.7	−22.6
	44	B. A. C. 3948 .	.	9	31 28.92	+ 0.06	− 18.73	71 1 55.72	+ 8 48.95	+ 2 55.2	11 31 10.25	− 3.15	122 20 1.1	−22.6
	45	Themis . . .	.	9	4 7.06	+ 0.02	− 18.76	38 33 56.28	+ 3 45.31	+ 48.2	12 3 48.32	. .	89 44 51.0	− 3.0
	46	β Corvi . . .	.	9	28 20.32	+ 0.05	**− 18.77**	61 31 55.45	+ 4 29.72	+ 1 51.3	12 28 11.48	. .	112 44 37.7	+ 1.1
	47	n^2 Can. Ven. . .	.	9	50 49.61	0.00	**− 18.75**	359 51 55.62	+ 4 20.70	− 0.1	12 50 30.80	. .	51 2 37.4	+ 1.4
	48	θ Virginis . . .	.	9	4 9.31	+ 0.03	**− 18.90**	43 41 54.45	+ 5 18.59	+ 57.9	13 3 50.52	. .	94 54 32.1	− 1.0
	49	Polaris, S. P. . .	.	5	14 47.43	− 0.11	− 18.83	307 31 52.28	+ 3 46.57	− 1 18.4	1 14 28.49	. .	358 40 41.6	+ 2.2
5, R.	50	μ Geminorum . .	.	9	16 6.72	+ 0.10	**− 19.30**	16 13 53.15	+ 5 8.24	+ 17.4	6 15 47.48	. .	67 25 40.0	+ 1.2

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
4	29.53	43.8	41.3
14	29.42	41.2	38.7
17	29.37	40.3	37.6
19	29.95	41.6	40.1
21	29.97	42.1	40.9
22	29.98	35.3	33.4
31	29.96	34.2	32.6
33	29.67	32.2	30.5
44	29.66	30.2	28.5
49	29.68	29.0	27.0
50	29.66	36.1	34.2

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

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10, 46. One bisection. 1 to 17 + 36.26

16, 26, 49. Three bisections. 18 to 31 + 36.49

13, 15, 31. Four bisections. 32 to 49 + 36.27

50 + 35.96

21. Barometer and temperatures observed at $4^h.4$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
April 5, R.	1	γ Geminorum . .	.	9	31 11.30	+ 0.11	— **19.36**	22 17 58.25	+ 5 24.18	+ 24.6	6 30 52.06	. .	73 30 8.2	+ 1.3
	2	Moon I, N. . .	.	9	35 59.61	+ 0.10	— 19.35	17 15 58.18	+ 3 10.32	+ 18.6	6 35 40.36	+66.16	68 25 48.3	. .
	3	51 Cephei . . .	.	6	44 52.12	— 1.71	— 19.35	311 37 58.50	+ 2 51.08	— 1 6.9	6 44 31.06	. .	2 46 3.9	+ 0.6
	4	ε Canis Majoris .	.	8	54 17.51	+ 0.25	— **19.50**	67 36 1.38	+ 4 13.80	+ 2 24.4	6 53 58.40	. .	118 49 0.8	+ 1.1
	5	δ Canis Majoris .	.	9	3 53.76	+ 0.24	— **19.42**	64 59 55.42	+ 4 14.33	+ 2 7.9	7 3 34.64	. .	116 12 38.9	+ 1.0
	6	δ Geminorum . .	.	9	13 22.29	+ 0.09	— **19.32**	16 37 59.55	+ 3 26.12	+ 17.9	7 13 3.02	. .	67 48 4.8	+ 0.2
	7	ι^2 Geminorum . .	.	9	27 21.94	+ 0.06	— **19.24**	6 39 54.00	+ 4 47.78	+ 7.1	7 27 2.63	. .	57 51 10.1	+ 1.3
	8	α Can. Min. (R) .	.	.	. . .	. .	. .	146 33 59.35	+ 4 32.75	— 39.4	. . . .	. .	84 28 28.5	+ 1.3
	9	α Can. Min. . .	.	.	. . .	. .	. .	33 18 0.78	+ 3 26.69	+ 39.4	7 33 . .	. .	84 28 28.1	+ 0.9
	10	λ Ursæ Min., s. P	.	6	42 39.43	+ 5.09	— 19.37	307 48 1.88	+ 3 27.58	— 1 17.0	19 42 25.15	. .	358 56 33.7	+ 1.2
	11	Taylor 3394 . .	.	9	58 21.32	+ 0.33	— 19.38	82 58 0.52	+ 4 34.62	+ 7 40.4	7 58 2.27	— 1.53	134 16 36.7	—25.0
	12	B. A. C. 2774 .	.	9	9 20.99	+ 0.28	— 19.38	74 18 1.20	+ 4 56.56	+ 3 31.7	8 9 1.89	— 1.75	125 32 50.7	—24.0
	13	O. Arg. N. 8887	8.8	9	15 8.57	— 0.01	— 19.38	347 43 56.60	+ 6 14.47	— 12.9	8 14 49.18	— 3.15	38 56 19.4	+ 2.0
	14	O. Arg. N. 9029	8.0	8	23 23.83	— 0.01	— 19.39	347 43 56.60	+ 3 32.52	— 13.0	8 23 4.43	— 3.20	38 53 37.3	+ 1.5
	15	O. Arg. N. 9033	7.5	7	23 36.99	— 0.01	— 19.39	347 43 56.60	+ 8 7.02	— 12.9	8 23 17.59	— 3.20	38 58 11.9	+ 1.5
	16	O. Arg. N. 9058	8.0	3	24 36.27	— 0.01	— 19.39	347 43 56.60	+ 5 58.49	— 12.9	8 24 16.87	— 3.20	38 56 3.4	+ 1.4
	17	B. A. C. 2980 .	.	9	42 27.02	+ 0.26	— 19.39	72 57 59.72	+ 4 1.30	+ 3 14.4	8 42 7.89	— 2.02	124 11 36.6	—24.6
	18	B. A. C. 3030 .	.	9	48 36.79	+ 0.28	— 19.40	77 1 56.18	+ 4 26.84	+ 4 16.9	8 48 17.67	— 2.05	128 17 1.1	—25.3
	19	σ^2 Ursæ Maj. (R) .	.	.	. . .	. .	. .	208 39 53.90	+ 2 59.58	+ 32.9	. . . .	. .	22 22 54.8	— 3.5
	20	σ^2 Ursæ Maj. . .	.	.	. . .	. .	. .	331 13 53.35	+ 3 18.42	— 32.9	9 0 . .	. .	22 23 0.1	+ 1.8
	21	B. VI+49°, 1940	5.8	9	12 25.74	— 0.02	— 19.43	349 49 56.05	+ 4 16.32	— 10.7	10 12 6.29	— 3.54	41 0 22.9	— 6.0
	22	Anonymous . .	13.0	3	24 15.95	+ 0.09	— 19.43	21 47 59.78	+ 5 14.34	+ 24.2	10 23 56.61	— 2.89	72 59 59.5	—14.9
	23	Weisse 520 . .	6.0	4	30 59.10	+ 0.17	— 19.43	50 23 59.28	+ 4 19.46	+ 1 12.8	10 30 39.84	— 2.75	101 35 52.7	—21.4
	24	α Ursæ Maj. (R) .	.	.	. . .	. .	. .	203 25 57.08	+ 3 29.08	+ 26.2	. . . .	. .	27 36 28.8	— 1.9
	25	α Ursæ Maj . .	.	.	. . .	. .	. .	336 25 57.95	+ 4 38.74	— 26.2	10 56 . .	. .	27 36 31.7	+ 1.0
	26	δ Leonis . . .	.	9	8 8.97	+ 0.08	— **19.31**	17 37 58.88	+ 5 4.27	+ 19.2	11 7 49.60	. .	68 49 43.6	— 0.4
	27	δ Crateris . . .	.	9	13 45.88	+ 0.18	— **19.61**	52 55 59.75	+ 4 46.06	+ 1 19.8	11 13 26.61	. .	104 8 26.8	— 0.2
	28	τ Leonis . . .	.	9	22 11.28	+ 0.13	— **19.42**	35 18 0.38	+ 4 34.12	+ 42.8	11 21 51.96	. .	86 29 38.5	+ 0.6
	29	λ Draconis . . .	.	4	24 44.38	— 0.21	— 19.45	328 49 55.72	+ 5 10.80	— 36.3	11 24 24.72	. .	20 0 51.4	+ 0.6
	30	D. M. +3°, 2536	9.5	9	36 23.31	+ 0.12	— 19.45	35 43 54.52	+ 3 7.18	+ 43.4	11 36 3.98	— 2.98	86 54 6.3	—19.3
	31	o Virginis (R) . .	.	.	. . .	. .	. .	150 25 56.85	+ 4 17.10	— 34.1	. . . .	. .	80 36 41.3	+ 1.0
	32	o Virginis . . .	.	.	. . .	. .	. .	29 25 59.22	+ 3 45.95	+ 34.1	11 59 . .	. .	80 36 40.5	+ 0.2
	33	4 Draconis . .	.	.	. . .	. .	. .	320 33 56.58	+ 4 1.24	— 49.4	12 7 . .	. .	11 43 29.6	+ 0.5
10, W.	34	γ^1 Leonis . . .	.	9	13 49.13	+ 0.05	— **21.70**	18 21 54.38	+ 5 5.73	+ 19.4	10 13 27.41	. .	69 33 40.7	+ 1.9
	35	ρ Leonis . . .	.	9	26 57.21	+ 0.05	— **21.77**	28 53 53.80	+ 4 25.17	+ 32.2	10 26 35.49	. .	80 5 12.4	+ 2.2
	36	Moon I, N. . .	.	9	39 47.26	+ 0.07	— 21.77	36 7 58.98	+ 3 5.75	+ 42.6	10 39 25.56	+62.70	87 18 8.5	. .
	37	α Ursæ Maj. . .	.	9	56 48.54	+ 0.01	— 21.77	336 25 57.28	+ 4 39.06	— 25.4	10 56 26.78	. .	27 36 32.1	+ 2.5
	38	δ Leonis . . .	.	9	8 11.40	+ 0.03	— **21.72**	17 37 57.62	+ 5 7.43	+ 18.7	11 7 49.66	. .	68 49 44.9	+ 1.4
	39	δ Crateris . . .	.	9	13 48.21	+ 0.10	— **21.89**	52 55 58.05	+ 4 52.10	+ 1 17.5	11 13 26.54	. .	104 8 28.9	+ 1.5
	40	B. A. C. 3906 .	.	6	23 55.93	+ 0.04	— 21.77	317 3 54.05	+ 3 48.51	— 54.2	11 23 34.20	— 9.82	8 13 9.6	— 3.1
	41	B. A. C. 3981 (R)	.	.	. . .	. .	. .	189 27 55.30	+ 4 28.67	+ 9.8	. . . .	. .	41 33 47.4	—10.4
	42	B. A. C. 3981 .	.	.	. . .	. .	. .	350 23 55.95	+ 3 44.70	— 9.8	11 40 . .	. .	41 33 52.0	—10.4
	43	γ Ursæ Maj. . .	.	9	47 59.70	0.00	— 21.77	344 28 0.12	+ 4 43.65	— 16.2	11 47 37.93	. .	35 38 48.8	+ 1.8
	44	Lalande 22585 .	.	9	55 2.92	+ 0.10	— 21.77	48 33 55.65	+ 5 4.21	+ 1 6.5	11 54 41.25	— 3.03	99 46 27.6	—20.9
	45	4 Draconis (R) .	.	.	. . .	. .	. .	219 17 56.72	+ 4 5.48	+ 48.1	. . . .	. .	11 43 30.9	+ 3.3
	46	4 Draconis . .	.	9	7 5.72	— 0.01	— 21.77	320 33 56.40	+ 4 0.72	— 48.1	12 6 43.94	. .	11 43 30.2	+ 2.6
	47	B. A. C. 4165 .	.	5	15 22.19	+ 0.18	— 21.77	310 27 56.70	+ 5 23.13	— 1 8.4	12 15 0.60	—39.59	1 38 32.6	— 5.9
	48	Anonymous . .	10?	8	26 14.17	+ 0.05	— 21.77	30 49 55.05	+ 3 27.59	+ 35.1	12 25 52.45	— 3.06	82 0 18.9	—18.6
	49	α^2 Can. Ven. . .	.	9	50 52.59	0.00	— **21.72**	359 51 56.08	+ 4 19.97	— 0.1	12 50 30.82	. .	51 2 37.1	+ 2.4
	50	θ Virginis . . .	.	9	4 12.16	+ 0.07	— **21.75**	43 41 54.32	+ 5 20.97	+ 56.2	13 3 50.46	. .	94 54 32.7	+ 1.5

No.	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*	No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°			′ ″	′ ″	′ ″	′ ″
4	29.68	34.4	33.2		2	—15 59.7	+ 14 50.5	. .	— 1 9.2
12	29.68	32.7	30.7	ZENITH-POINT CORR.	36	—32 29.8	+ 15 9.5	. .	— 17 20.3
16	29.68	32.3	30.8	″					
20	29.70	32.2	30.9						
21	29.70	32.2	30.2	45. One bisection. 1 to 33 + 35.96					
33	29.69	30.7	28.8	1, 11, 13, 29, 40. Three bisections. 34 to 50 + 36.74					
34	29.97	50.8	50.5	2, 3, 33, 38, 43. Four bisections.					
39	29.95	48.8	47.7	10, 36. Five bisections.					

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
April					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
10, W.	1	Polaris, S. P.		7	14 50.33	− 0.08	− 21.77	307 31 53.82	+ 3 41.28	− 1 16.2	1 14 28.48	. .	358 40 40.1	+ 2.6
	2	α Virginis		9	19 20.40	+ 0.08	− **21.79**	49 19 55.48	+ 5 18.62	+ 1 8.5	13 18 58.71	. .	100 32 43.8	+ 1.9
	3	ζ Virginis		9	29 2.67	+ 0.06	− **21.82**	38 47 59.85	+ 4 25.42	+ 47.4	13 28 40.96	. .	89 59 33.9	+ 2.3
E.	4	ζ Pegasi		9	35 54.28	+ 0.06	− **21.79**	28 35 56.05	+ 4 31.64	+ 31.7	22 35 32.48	. .	79 47 20.6	+ 0.4
	5	α Piscis Aust.		9	51 26.91	+ 0.27	− **21.97**	69 1 54.92	+ 4 11.33	+ 2 30.4	22 51 5.32	. .	120 14 57.8	+ 0.1
	6	α Pegasi		9	59 12.61	+ 0.04	− **21.82**	24 15 58.65	+ 3 18.58	+ 26.2	22 58 50.79	. .	75 26 4.6	+ 0.9
	7	Polaris		8	14 53.76	− 3.41	− 21.90	310 9 53.62	+ 4 16.50	− 1 7.8	1 14 28.45	. .	1 19 23.5	+ 0.8
11	8	Sun I, N.		9	20 23.90	+ 0.09	− 21.90	29 59 53.82	+ 4 12.37	+ 33.2	1 20 2.09	+64.83	81 11 0.6	. .
	9	Sun II, S.		9	22 33.57	+ 0.09	− 21.90	30 31 53.50	+ 4 9.53	+ 33.9	1 22 11.76	−64.84	81 42 58.1	. .
	10	Venus I, S.		3	8 32.90	+ 0.05	− 21.92	14 29 50.88	+ 5 4.05	+ 14.9	3 8 11.03	+ 1.78	65 41 31.0	. .
	11	ε Hydræ		9	40 52.63	+ 0.09	− **22.01**	31 57 55.12	+ 4 6.26	+ 36.0	8 40 30.73	. .	83 8 58.6	+ 0.5
	12	ι Ursæ Majoris		9	51 28.39	− 0.08	− 22.00	350 19 52.10	+ 3 30.16	− 9.8	8 51 6.31	. .	41 29 33.7	+ 1.0
	13	κ Cancri		9	1 42.42	+ 0.07	− 21.98	27 39 53.02	+ 4 42.91	+ 30.3	9 1 20.48	. .	78 51 27.4	+ 0.6
	14	α Hydræ		9	22 8.63	+ 0.15	− **22.04**	46 57 56.72	+ 3 38.24	+ 1 1.9	9 21 46.75	. .	98 8 58.1	+ 1.5
	15	15 Leonis Minoris		9	41 19.84	− 0.07	− 22.04	352 13 52.72	+ 5 30.42	− 7.8	9 40 57.73	− 3.24	43 25 36.5	− 3.8
	16	B. A. C. 3415 (R)			. . . .	. .	. .	149 39 52.52	+ 3 37.41	− 33.7	. . . .	. .	81 23 25.0	−15.9
	17	B. A. C. 3415			. . . .	. .	. .	30 11 53.22	+ 4 35.91	+ 33.7	9 54 . .	. .	81 23 24.0	−15.9
	18	32 Ursæ Majoris (R)			. . . .	. .	. .	206 43 51.78	+ 4 6.44	+ 29.2	. . . .	. .	24 17 53.8	− 2.9
	19	32 Ursæ Majoris		3	9 49.21	− 0.21	− 22.06	333 7 54.98	+ 4 11.38	− 29.2	10 9 26.94	. .	24 17 58.4	+ 1.7
	20	α Ursæ Majoris		9	56 48.86	− 0.19	− 22.10	336 25 55.60	+ 4 39.02	− 25.2	10 56 26.57	. .	27 36 30.6	+ 1.3
	21	δ Leonis		9	8 11.68	+ 0.02	− **21.99**	17 37 56.02	+ 5 7.38	+ 18.5	11 7 49.60	. .	68 49 43.1	− 0.3
	22	δ Crateris		9	13 48.46	+ 0.18	− **22.22**	52 55 54.05	+ 4 54.62	+ 1 16.9	11 13 26.53	. .	104 8 26.8	− 0.6
14, E.	23	Polaris		9	14 57.00	− 3.26	− 24.45	310 9 53.20	+ 4 17.16	− 1 7.5	1 14 29.29	. .	1 19 24.1	+ 0.1
15	24	Sun S.			. . . .	. .	. .	29 5 57.48	+ 3 33.05	+ 31.9	. . . .	. .	80 16 23.6	. .
	25	Sun II, N.		9	37 20.92	+ 0.04	− 24.47	28 33 55.90	+ 3 41.65	+ 31.3	1 36 56.49	−65.02	79 44 30.1	. .
	26	η Tauri		8	40 50.24	0.00	− **24.58**	15 4 . .	. .	. .	3 40 25.68	. .	66 16 . .	. .
	27	ζ Persei		9	47 4.82	− 0.03	− **24.55**	7 17 56.42	+ 3 47.05	+ 7.4	3 46 40.23	. .	58 28 12.1	+ 0.2
	28	α Tauri		9	29 31.23	+ 0.02	− **24.59**	22 32 . .	. .	. .	4 29 6.66	. .	73 44 . .	. .
	29	ι Ursæ Majoris		9	51 31.00	− 0.10	− 24.79	350 19 53.02	+ 3 29.66	− 9.7	8 51 6.11	. .	41 29 34.2	+ 1.8
	30	κ Cancri			. . . .	. .	. .	27 39 55.40	+ 4 41.13	+ 30.1	9 1 . .	. .	78 51 27.8	+ 1.2
	31	B. A. C. 3162[1]	8	6	11 53.38	− 0.06	− 24.80	1 29 51.18	+ 5 35.74	+ 1.6	9 11 28.52	− 2.80	52 41 49.7	− 4.7
	32	B. A. C. 3162[2]	5	5	11 53.56	− 0.06	− 24.80	1 29 51.18	+ 5 34.64	+ 1.6	9 11 28.70	− 2.80	52 41 48.6	− 4.7
	33	α Cephei, S. P.		5	16 9.21	+ 0.03	− 24.80	280 59 52.80	+ 3 18.66	− 4 45.1	21 15 44.44	. .	332 4 47.6	+ 3.0
	34	α Hydræ		9	22 11.39	+ 0.11	− **24.81**	46 57 57.92	+ 3 36.44	+ 1 1.5	9 21 46.69	. .	98 8 57.1	+ 0.4
16, S.	35	κ Cancri		9	1 45.57	− 0.10	− **25.04**	27 39 53.48	+ 4 43.44	+ 30.3	9 1 20.40	. .	78 51 28.4	+ 1.8
	36	α Cephei		9	16 10.04	− 0.37	− 25.08	280 59 53.12	+ 3 15.15	− 4 46.8	21 15 44.59	. .	332 4 42.7	− 1.9
	37	D.M.+21°, 2106	9	9	41 6.59	− 0.11	− 25.09	17 25 54.92	+ 3 37.48	+ 18.2	9 40 41.39	− 2.65	68 36 11.8	−11.2
	38	Weisse (2) 1282		9	1 41.96	− 0.11	− 25.10	21 55 55.82	+ 6 7.16	+ 23.5	10 1 16.75	− 2.68	73 8 47.7	−13.4
	39	B.VI + 49°, 1940		9	12 31.36	− 0.11	− 25.11	349 49 52.62	+ 4 17.82	− 10.3	10 12 6.14	− 3.33	41 0 21.3	− 4.2
	40	ρ Leonis		9	27 0.67	− 0.10	− **25.15**	28 53 55.30	+ 4 22.64	+ 32.2	10 26 35.45	. .	80 5 11.3	+ 1.5
	41	Anonymous	10.5	9	36 14.23	− 0.08	− 25.12	45 13 54.22	+ 7 49.59	+ 58.8	10 35 49.03	− 2.68	96 29 3.8	−20.7
	42	α Ursæ Majoris		9	56 51.67	− 0.10	− 25.13	336 25 56.18	+ 4 37.03	− 25.3	10 56 26.44	. .	27 36 29.1	+ 0.9
	43	δ Leonis		9	8 14.84	− 0.12	− **25.05**	17 37 56.25	+ 5 6.57	+ 18.6	11 7 49.58	. .	68 49 42.6	− 0.2
	44	δ Crateris		9	13 51.67	− 0.07	− **25.22**	52 55 56.32	+ 4 52.70	+ 1 17.1	11 13 26.46	. .	104 8 27.3	− 0.4
	45	Lalande 22585		9	55 6.31	− 0.08	− 25.16	48 33 52.95	+ 5 5.94	+ 1 6.2	11 54 41.07	− 3.01	99 46 26.3	−21.1
	46	D.M. + 3°, 2627	9.5	9	13 29.27	− 0.10	− 25.17	35 23 54.68	+ 2 53.29	+ 41.5	12 13 4.00	− 3.03	86 33 50.7	−19.0
	47	Weisse 220	8.3	9	15 49.40	− 0.10	− 25.17	35 23 54.68	+ 6 0.24	+ 41.6	12 15 24.13	− 3.04	86 36 57.7	−19.0
	48	Anonymous	11	9	26 17.58	− 0.11	− 25.18	30 49 52.90	+ 3 29.01	+ 34.9	12 25 52.29	− 3.06	82 0 18.0	−18.3
	49	B. A. C. 4271 (R)			. . . .	. .	. .	151 55 56.02	+ 4 8.75	− 31.1	. . . .	. .	79 6 47.5	−17.8
	50	B. A. C. 4271			. . . .	. .	. .	27 55 56.52	+ 4 0.47	+ 31.1	12 36 . .	. .	79 6 49.3	−17.8

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	29.98	46.8	45.6
4	30.09	52.0	54.5
9	30.17	58.3	60.5
11	30.00	58.0	56.0
22	29.98	54.0	51.5
23	29.60	51.0	52.7
25	29.60	51.3	52.2
28	29.57	56.0	56.8
29	29.60	53.5	52.5
35	29.83	53.7	53.2
39	29.86	51.8	49.5

For summary of the constants of reduction see page 3.

		ZENITH-POINT CORR.
		″
16, 17, 18, 19, 33.	One bisection.	1 to 3 + 36.74
1, 7, 23.	Three bisections.	4 to 10 + 36.72
5, 11, 27, 35.	Four bisections.	11 to 22 + 35.47
		23 to 34 + 36.35
		35 to 50 + 35.96

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
8	− 4.4	+ 15 58.7	. .	+ 15 54.3
9	− 4.4	− 15 58.8	. .	− 16 3.2
10	− 6.3	− 24.4	. .	− 30.7
24	− 4.3	− 15 56.7	. .	− 16 1.0
25	− 4.2	+ 15 56.7	. .	+ 15 52.5

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
April 16, S.	1	B. A. C. 4335 (R)	.	.	. . . .	. .	. .	197 37 53.48	+ 4 19.17	+ 18.7	. . . .	. .	33 23 49.9	—11.1
	2	B. A. C. 4335	.	.	. . . .	. .	. .	342 13 52.78	+ 3 54.84	— 18.7	12 49 . .	. .	33 23 50.1	—11.1
	3	θ Virginis . . .	.	9	4 15.81	— 0.09	**— 25.22**	43 41 52.68	+ 5 21.96	+ 56.0	13 3 50.52	. .	94 54 31.8	+ 0.6
	4	Polaris, S. P. . .	.	6	14 56.93	— 1.95	— 25.20	307 31 51.45	+ 3 39.79	— 1 15.9	1 14 29.78	. .	358 40 36.5	+ 0.9
	5	α Virginis . . .	.	9	19 23.98	— 0.08	**— 25.18**	49 19 53.32	+ 5 21.08	+ 1 8.2	13 18 58.70	. .	100 32 43.8	+ 1.6
22, W.	6	α Cephei, S. P. . .	.	9	16 13.99	— 0.41	— 29.10	280 59 54.68	+ 3 15.73	— 4 46.5	21 15 44.48	. .	332 4 45.1	+ 0.6
	7	α Hydræ . . .	.	9	22 15.72	— 0.01	**— 29.12**	46 57 58.50	+ 3 35.87	+ 1 1.8	9 21 46.61	. .	98 8 57.4	+ 0.7
	8	ε Leonis . . .	.	9	39 37.44	— 0.03	**— 29.12**	14 29 54.72	+ 4 21.84	+ 15.0	9 39 8.30	. .	65 40 52.8	+ 0.1
	9	B. A. C. 3346 .	.	9	43 3.81	+ 0.03	— 29.11	339 13 56.52	+ 4 13.13	— 21.8	9 42 34.73	— 3.51	30 24 9.0	+ 1.1
	10	α Leonis . . .	.	9	2 33.69	— 0.03	**— 29.08**	26 15 56.55	+ 4 34.75	+ 28.6	10 2 4.55	. .	77 27 21.1	+ 0.3
	11	γ¹ Leonis . . .	.	9	13 56.41	— 0.03	— 29.11	18 19 53.22	+ 7 5.62	+ 19.3	10 13 27.27	. .	69 33 39.3	+ 1.4
	12	B. A. C. 3652 (R)	.	.	. . . .	. .	. .	210 43 54.08	+ 3 48.84	+ 34.6	. . . .	. .	20 18 3.7	+ 0.6
	13	B. A. C. 3652 .	.	8	35 5.53	+ 0.10	— 29.12	329 8 0.82	+ 4 20.67	— 34.6	10 34 36.51	— 4.59	20 18 8.1	+ 0.6
	14	Anonymous . .	.	3	44 7.24	— 0.03	— 29.12	27 5 57.05	+ 4 45.75	+ 29.8	10 43 38.09	— 2.74	78 17 33.8	—15.8
	15	D. M. +11°, 2286	.	7	44 30.94	— 0.03	— 29.12	27 5 57.05	+ 4 50.34	+ 29.8	10 44 1.79	— 2.74	78 17 38.4	—15.8
	16	Anonymous . .	.	9	29 14.80	+ 0.08	— 29.12	81 17 56.35	+ 4 56.89	+ 6 5.8	11 28 45.76	— 3.17	132 35 20.2	—26.6
	17	β Leonis (R) . .	.	.	. . . .	. .	. .	156 15 55.02	+ 4 48.05	— 25.5	. . . .	. .	74 46 3.6	+ 1.5
	18	β Leonis . . .	.	.	. . . .	. .	. .	23 33 52.88	+ 5 23.91	+ 25.5	11 43 . .	. .	74 46 3.5	+ 1.4
	19	D. M. + 3°, 2627	.	9	13 33.21	— 0.03	— 29.13	35 23 56.42	+ 2 49.85	+ 41.4	12 13 4.05	— 3.01	86 33 48.9	—18.7
	20	Weisse 220 . .	.	9	15 53.22	— 0.03	— 29.13	35 23 56.42	+ 5 58.14	+ 41.5	12 15 24.06	— 3.02	86 36 57.3	—18.7
	21	B. A. C. 4341 .	.	9	50 3.02	— 0.03	— 29.14	350 57 58.38	+ 5 29.49	— 9.2	12 49 33.85	— 3.41	42 9 39.9	—11.0
	22	B. A. C. 4357² .	.	9	55 4.22	+ 0.04	— 29.14	71 45 56.88	+ 4 0.09	+ 2 55.8	12 54 35.12	— 3.53	122 59 14.0	—21.6
	23	Lal. (F.) 179, S. P.	.	9	3 19.08	— 0.40	— 29.14	286 1 54.05	+ 3 47.94	— 3 19.3	1 2 49.54	+ 0.46	337 8 43.9	— 3.2
	24	Polaris, S. P. . .	.	7	15 4.10	— 3.60	— 29.14	307 31 54.80	+ 3 34.76	— 1 15.6	1 14 31.36	. .	358 40 35.2	+ 1.2
	25	α Virginis . . .	.	9	19 27.94	— 0.02	**— 29.18**	49 19 53.58	+ 5 20.13	+ 1 8.0	13 18 58.78	. .	100 32 42.9	+ 0.5
	26	ζ Virginis . . .	.	9	29 10.12	— 0.04	**— 29.11**	38 47 58.40	+ 4 24.79	+ 47.0	13 28 40.93	. .	89 59 31.4	+ 0.2
	27	Metis . . .	.	9	33 1.37	— 0.04	— 29.15	41 55 55.68	+ 4 9.00	+ 52.5	13 32 32.18	. .	93 7 18.4	— 3.7
	28	D. M. +15°. 2617	.	9	39 31.80	— 0.05	— 29.15	23 15 55.98	+ 5 34.42	+ 25.2	13 39 2.60	— 3.13	74 28 16.8	—16.6
	29	Lalande 25372 .	.	9	40 14.54	— 0.05	— 29.15	23 15 55.98	+ 5 21.93	+ 25.2	13 39 45.34	— 3.13	74 28 4.3	—16.6
	30	Thyra (?) . .	.	7	45 22.89	+ 0.02	— 29.15	68 42 . .	. . .	. .	13 44 53.76	. .	119 54 . .	. .
	31	B. A. C. 4759 .	.	9	16 15.77	+ 0.05	— 29.16	77 43 57.20	+ 3 35.29	+ 4 23.6	14 15 46.66	— 3.99	128 58 17.3	—16.3
	32	θ Bootis . . .	.	9	21 41.44	— 0.03	**— 29.31**	346 25 56.62	+ 4 5.59	— 14.0	14 21 12.25	. .	37 36 9.4	0.0
	33	ρ Bootis . . .	.	9	27 14.37	— 0.06	**— 29.09**	7 55 57.32	+ 4 8.61	+ 8.2	14 26 45.14	. .	59 6 35.3	— 0.5
	34	ε Bootis . . .	.	9	40 19.67	— 0.06	**— 29.10**	11 13 52.68	+ 5 15.16	+ 11.7	14 39 50.44	. .	62 25 40.7	+ 0.7
	35	ν Cygni . . .	.	9	53 14.94	+ 0.05	**— 29.53**	358 6 . .	. . .	. .	20 52 45.42	. .	49 18 . .	. .
	36	61¹ Cygni . . .	.	9	2 4.70	+ 0.05	**— 29.59**	0 39 53.00	+ 4 0.28	+ 0.7	21 1 35.18	. .	51 50 15.2	+ 2.4
	37	ζ Cygni . . .	.	9	8 23.08	+ 0.08	**— 29.51**	9 3 53.18	+ 5 21.11	+ 9.4	21 7 53.59	. .	60 15 44.9	+ 1.4
	38	α Cephei . . .	.	9	16 14.34	— 0.02	— 29.57	336 43 54.80	+ 5 27.68	— 25.0	21 15 44.75	. .	27 55 18.7	+ 3.2
	39	β Aquarii . . .	.	9	25 48.71	+ 0.19	**— 29.63**	44 53 56.10	+ 4 18.92	+ 58.2	21 25 19.33	. .	96 5 34.4	+ 1.9
	40	α Aquarii . . .	.	9	0 11.14	+ 0.17	**— 29.59**	39 41 54.42	+ 4 44.21	+ 48.1	21 59 41.74	. .	90 53 47.9	+ 2.2
	41	Moon II, N. .	.	9	9 17.68	+ 0.19	— 29.57	45 31 54.68	+ 4 43.72	+ 59.0	22 8 48.30	—67.05	96 43 58.6	. .
E.	42	α Andromedæ . .	.	9	2 44.54	+ 0.04	**— 29.49**	10 23 54.85	+ 3 32.55	+ 10.5	0 2 15.07	. .	61 33 59.1	+ 0.5
	43	γ Pegasi . . .	.	9	7 36.86	+ 0.05	**— 29.51**	24 18 0.75	+ 3 50.38	+ 25.8	0 7 7.40	. .	75 28 38.1	+ 0.3
	44	β Ceti	.	9	38 7.04	+ 0.12	**— 29.54**	57 25 56.52	+ 4 29.54	+ 1 29.0	0 37 37.64	. .	108 38 16.3	+ 0.5
	45	Mercury II, N. .	.	9	44 23.92	+ 0.07	— 29.53	36 57 58.25	+ 5 6.09	+ 42.9	0 43 54.46	— 0.21	88 10 8.4	. .
	46	Polaris . . .	.	9	15 4.43	+ 4.41	— 29.54	310 9 50.25	+ 4 22.44	— 1 6.9	1 15 39.30	. .	1 19 27.0	+ 0.8
23	47	Sun I, S. . .	.	9	5 3.06	+ 0.06	— 29.57	26 19 51.80	+ 4 47.77	+ 28.0	2 4 33.55	+65.47	77 31 28.8	. .
	48	Sun II, N. . .	.	5	7 14.00	+ 0.06	— 29.57	25 47 55.10	+ 4 55.39	+ 27.4	2 6 44.49	—65.47	76 59 39.1	. .
	49	Venus I. . . .	.	9	57 41.52	+ 0.06	— 29.59	15 38 . .	. . .	. .	2 57 11.99	+ 2.05	66 48 . .	. .
	50	η Tauri . . .	.	9	40 55.13	+ 0.07	**— 29.57**	15 3 52.40	+ 5 21.82	+ 15.2	3 40 25.59	. .	66 15 50.6	+ 2.3

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	29.92	49.2	47.2
5	29.93	48.8	46.8
7	30.09	57.9	56.7
12	30.12	56.6	54.5
25	30.12	53.3	51.4
34	30.12	52.4	50.7
37	30.18	50.6	51.2
41	30.21	54.0	57.8
42	30.24	62.0	65.5
47	30.24	66.3	69.8

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

		″
8. One bisection.	1 to 5	+ 35.96
4, 24, 46. Three bisections.	6 to 34	+ 35.81
23, 36, 38, 45, 50. Four bisections.	36 to 41	+ 38.42
41. Five bisections.	42 to 50	+ 36.06

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
41	—41 51.8	+ 16 3.6	. .	— 25 48.2
45	— 4.8	+ 3.0	. .	— 1.8
47	— 3.9	— 15 54.8	. .	— 15 58.7
48	— 3.8	+ 15 54.8	. .	+ 15 51.0

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
April 23, E.	1	ζ Persei. . . .	.	9	47 9.84	+ 0.07	— **29.70**	7 17 52.90	+ 3 50.80	+ 7.3	3 46 40.29	. .	58 28 12.2	— 0.4
	2	α Tauri . . .	.	9	29 36.13	+ 0.08	— **29.60**	22 31 50.55	+ 5 18.42	+ 23.4	4 29 6.57	. .	73 43 53.6	+ 0.9
	3	ε Leonis . . .	.	9	39 37.84	0.00	— **29.57**	14 29 49.98	+ 4 28.82	+ 14.9	9 39 8.30	. .	65 40 54.9	+ 2.3
	4	Anonymous . .	.	7	42 48.35	+ 0.15	— 29.54	71 51 53.20	+ 4 29.55	+ 2 53.9	9 42 18.96	— 2.18	123 5 37.9	—26.7
	5	μ Leonis . . .	.	7	46 31.81	0.00	— **29.55**	12 15 48.38	+ 3 48.51	+ 12.5	9 46 2.27	. .	63 26 10.6	+ 1.4
	6	Anonymous . .	10	9	53 10.94	+ 0.01	— 29.55	23 15 52.15	+ 6 18.85	+ 24.8	9 52 41.40	— 2.54	74 28 57.0	—13.1
	7	Weisse (2) 1282 .	.	9	1 46.30	0.00	— 29.56	21 55 51.92	+ 6 12.60	+ 23.0	10 1 16.74	— 2.59	73 8 48.7	—12.9
	8	B. VI + 49°, 1940	.	9	12 35.73	— 0.01	— 29.56	349 49 52.12	+ 4 17.98	— 10.2	10 12 6.16	— 3.18	41 0 21.1	— 3.2
	9	Anonymous . .	11	8	24 26.52	— 0.01	— 29.57	21 47 56.22	+ 5 13.25	+ 23.1	10 23 56.94	— 2.69	72 59 53.8	—13.6
	10	ρ Leonis . . .	.	9	27 4.89	0.00	— **29.54**	28 53 52.22	+ 4 26.63	+ 31.8	10 26 35.32	. .	80 5 11.8	+ 2.3
	11	D. M. — 1°, 2416	9.0	8	32 44.14	+ 0.03	— 29.58	39 57 55.68	+ 7 37.22	+ 48.4	10 32 14.59	— 2.61	91 12 42.5	—19.3
	12	Anonymous . .	10.0	8	32 58.81	+ 0.03	— 29.58	39 57 55.68	+ 1 40.45	+ 48.3	10 32 29.26	— 2.61	91 6 45.6	—19.2
	13	D. M. + 11°, 2286	.	9	44 31.37	0.00	— 29.59	27 5 54.75	+ 4 53.91	+ 29.6	10 44 1.78	— 2.73	78 17 39.5	—15.7
	14	Uranus I, C. . .	.	6	47 21.25	+ 0.01	— 29.59	30 11 51.30	+ 4 24.90	+ 33.6	10 46 51.67	+ 0.13	81 23 11.0	. .
	15	Uranus II . .	.	5	47 21.52	+ 0.01	— 29.59	. . . .	. .	. .	10 46 51.94	— 0.14	. . . .	. .
	16	α Urs. Maj. (R.) .	.	.	. . . .	. .	. .	203 25 51.38	+ 3 38.94	+ 25.0	. . . .	. .	27 36 25.9	— 0.9
	17	α Ursæ Majoris .	.	7	56 56.23	0.00	— 29.60	336 25 56.32	+ 4 36.22	— 25.0	10 56 26.63	. .	27 36 28.7	+ 1.9
	18	δ Leonis (R.) . .	.	.	. . . .	. .	. .	162 11 48.80	+ 5 8.91	— 18.4	. . . .	. .	68 49 41.9	— 0.2
	19	δ Leonis . . .	.	.	. . . .	. .	. .	17 37 54.0	+ 5 8.21	+ 18.4	11 8 . .	. .	68 49 42.2	+ 0.1
	20	Brisbane 3607 .	.	9	24 50.03	+ 0.22	— 29.62	82 45 53.70	+ 3 12.95	+ 7 9.5	11 24 20.63	— 3.15	134 2 37.3	—27.1
	21	Brisbane 3626 .	.	9	26 23.99	+ 0.22	— 29.62	82 45 53.70	+ 5 58.88	+ 7 12.0	11 25 54.59	— 3.16	134 5 25.8	—27.0
	22	D. M. + 3°, 2627.	.	4	13 33.72	+ 0.01	— 29.65	35 23 52.10	+ 2 55.29	+ 41.3	12 13 4.08	— 3.01	86 33 49.9	—18.6
	23	Weisse 220 . .	.	9	15 53.73	+ 0.01	— 29.65	35 23 52.10	+ 6 3.90	+ 41.4	12 15 24.09	— 3.02	86 36 58.6	—18.6
	24	B. A. C. 4195 .	.	9	21 33.09	— 0.03	— 29.66	9 53 47.80	+ 4 8.59	+ 10.2	12 21 3.40	— 3.11	61 4 27.8	—13.6
	25	B. A. C. 4211[1] .	8.5	9	24 14.19	+ 0.06	— 29.66	54 39 55.12	+ 4 16.49	+ 1 21.9	12 23 44.59	— 3.14	105 51 54.7	—21.6
	26	B. A. C. 4211[2] .	3	9	24 15.17	+ 0.06	— 29.66	54 39 55.12	+ 3 55.37	+ 1 21.9	12 23 45.57	— 3.14	105 51 33.6	—21.6
	27	B. A. C. 4271 .	.	9	36 24.39	— 0.01	— 29.67	27 55 51.82	+ 4 4.51	+ 30.9	12 35 54.71	— 3.06	79 6 48.4	—17.2
	28	a^2 Can. Ven. . .	.	9	51 0.48	— 0.05	— **29.58**	359 51 49.82	+ 4 22.92	— 0.1	12 50 30.75	. .	51 2 33.8	+ 2.0
	29	B. A. C. 4350 .	.	9	52 14.74	— 0.06	— 29.68	351 59 49.28	+ 4 50.77	— 8.1	12 51 45.00	— 3.38	43 10 53.1	—11.0
	30	θ Virginis . . .	.	9	4 20.24	+ 0.02	— **29.74**	43 41 51.38	+ 5 24.42	+ 55.8	13 3 50.57	. .	94 54 32.8	+ 1.5
	31	Polaris, S. P. .	.	5	15 0.33	— 1.75	— 29.70	307 31 51.70	+ 3 39.10	— 1 15.5	1 14 28.88	. .	358 40 36.5	+ 2.9
	32	B. A. C. 4482 .	.	8	19 47.32	+ 0.15	— 29.70	77 53 52.12	+ 3 42.99	+ 4 26.7	13 19 17.77	— 3.82	129 8 23.0	—20.2
	33	ζ Virginis . . .	.	9	29 10.74	0.00	— **29.76**	38 47 53.65	+ 4 30.86	+ 47.0	13 28 41.03	. .	89 59 32.7	+ 1.6
	34	Metis	.	9	32 5.90	+ 0.01	— 29.71	41 49 51.92	+ 7 3.30	+ 52.4	13 31 36.20	. .	93 4 8.8	— 3.7
25, W.	35	β Ceti	.	9	38 8.54	+ 0.83	— **31.71**	57 25 52.80	+ 4 35.04	+ 1 26.0	0 37 37.83	. .	108 38 15.0	— 0.1
	36	β Andromedæ . .	.	9	3 36.36	+ 0.09	— **31.37**	3 49 50.20	+ 4 22.09	+ 3.7	1 3 4.91	. .	55 0 37.2	+ 0.5
	37	Polaris . . .	.	7	15 26.19	—22.33	— 31.54	310 9 47.88	+ 4 23.66	— 1 4.5	1 14 32.32	. .	1 19 28.2	+ 1.0
26	38	Sun I, N. . .	.	9	16 22.69	+ 0.40	— 31.54	24 49 50.68	+ 4 31.56	+ 25.2	2 15 51.45	+65.65	76 1 8.6	. .
	39	Sun II, S. . .	.	9	18 33.89	+ 0.40	— 31.54	25 21 51.35	+ 4 16.29	+ 25.8	2 18 2.75	—65.65	76 32 54.6	. .
27, S.	40	α Andromedæ . .	.	9	2 47.28	+ 0.25	— **32.32**	10 23 48.30	+ 3 38.95	+ 10.3	0 2 15.21	. .	61 33 58.7	0.0
	41	Mercury C. . .	.	9	14 7.74	+ 0.57	— 32.36	33 38 . .	. .	. .	1 13 35.95	— 0.04	84 48 . .	. .
	42	Polaris . . .	.	8	15 30.21	—21.95	— 32.36	310 9 46.72	+ 4 25.55	— 1 5.8	1 14 35.90	. .	1 19 27.7	— 0.1
28	43	Sun I, N. . .	.	9	23 57.93	+ 0.46	— 32.39	24 11 47.75	+ 4 39.40	+ 25.0	2 23 26.00	+65.81	75 23 13.4	. .
	44	Sun II, S. . .	.	9	26 9.56	+ 0.46	— 32.39	24 43 48.22	+ 4 23.80	+ 25.6	2 25 37.63	—65.82	75 55 58.8	. .
	45	ζ Persei . . .	.	9	47 12.37	+ 0.23	— **32.40**	7 17 50.98	+ 3 55.91	+ 7.2	3 46 40.17	. .	58 28 15.3	+ 2.2
	46	β Orionis . . .	.	9	9 21.69	+ 0.76	— **32.51**	47 7 53.10	+ 5 21.20	+ 59.6	5 8 49.98	. .	98 20 35.1	+ 3.4
	47	α Hydræ . . .	.	9	22 18.44	+ 0.70	— **32.65**	46 57 51.15	+ 3 46.19	+ 59.5	9 21 46.63	. .	98 8 58.0	+ 1.4
	48	ε Leonis . . .	.	9	39 40.38	+ 0.26	— **32.45**	14 29 45.70	+ 4 31.53	+ 14.5	9 39 8.12	. .	65 40 52.9	+ 0.6
	49	l Leonis . . .	.	9	43 34.82	+ 0.43	— **32.47**	27 38 . .	. .	. .	10 43 2.71	. .	78 50 . .	. .
	50	Uranus C. . .	.	9	47 3.62	+ 0.46	— 32.54	30 9 46.62	+ 4 38.78	+ 32.6	10 46 31.54	. .	81 21 19.2	. .

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.26	70.0	72.5
3	30.25	64.5	62.5
21	30.26	61.5	58.5
34	30.28	57.0	54.0
35	29.82	74.7	76.9
37	29.81	76.9	79.6
39	29.79	79.2	82.3
41	30.04	69.8	72.2
44	30.04	72.7	76.0
46	30.02	77.2	77.8
47	29.98	74.0	73.8

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

		″
13, 16, 17.	One bisection.	1 to 2 + 36.06
31, 37, 42.	Three bisections.	3 to 34 + 36.82
36, 45.	Four bisections.	35 to 39 + 36.86
		40 to 46 + 37.99
		47 to 50 + 37.65

41. Barometer and thermometers observed at 0^h 50^m.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
14	— 0.3	. .	. .	— 0.3
38	— 3.7	+ 15 53.0	. .	+ 15 49.3
39	— 3.7	— 15 53.0	. .	— 15 56.7
43	— 3.6	+ 15 52.6	. .	+ 15 49.0
44	— 3.7	— 15 52.6	. .	— 15 56.3
50	— 0.3	. .	. .	— 0.3

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
April					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
28, S.	1	Taylor 5270		9	26 0.21	+ 1.43	− 32.56	82 59 46.48	+ 5 48.84	+ 7 11.6	11 25 29.08	− 3.10	134 19 8.1	−27.9
	2	B. A. C. 4350		9	52 17.70	− 0.16	− 32.59	351 59 48.75	+ 4 46.67	− 7.8	12 51 44.95	− 3.34	43 10 48.8	− 9.8
	3	Polaris, S. P.		3	14 43.37	+25.43	− 32.60	307 31 46.90	+ 3 39.49	− 1 13.1	1 14 36.20	. .	358 40 34.5	+ 2.5
	4	ζ Virginis		9	29 13.12	+ 0.56	**− 32.69**	38 47 56.42	+ 4 27.40	+ 45.5	13 28 41.08	. .	89 59 30.5	− 0.4
	5	Lalande 25372		9	40 17.73	+ 0.35	− 32.61	23 15 54.20	+ 5 23.16	+ 24.4	13 39 45.47	− 3.15	74 28 3.0	−15.7
	6	η Bootis		9	49 36.51	+ 0.30	**− 32.54**	19 49 52.32	+ 4 0.87	+ 20.5	13 49 4.20	. .	71 0 34.9	+ 0.7
	7	κ Virginis		9	7 8.30	+ 0.70	− 32.62	48 31 54.42	+ 4 5.47	+ 1 4.1	14 6 36.38	− 3.36	99 43 25.2	−17.1
	8	α Bootis		9	10 49.47	+ 0.29	**− 32.60**	18 59 52.72	+ 5 34.43	+ 19.6	14 10 17.14	. .	70 12 8.0	+ 1.4
29, R.	9	δ Leonis		9	8 22.52	+ 0.30	**− 33.29**	17 37 52.02	+ 5 8.25	+ 18.2	11 7 49.44	. .	68 49 39.7	− 1.8
	10	δ Crateris		7	13 58.86	+ 0.75	**− 33.33**	52 55 52.80	+ 4 57.22	+ 1 15.7	11 13 26.23	. .	104 8 26.9	− 1.3
	11	τ Leonis		9	22 24.76	+ 0.52	**− 33.45**	35 17 52.38	+ 4 42.56	+ 40.6	11 21 51.90	. .	86 29 36.7	− 0.4
	12	υ Leonis		9	31 27.07	+ 0.57	**− 33.45**	38 57 55.72	+ 5 16.39	+ 46.4	11 30 54.26	. .	90 10 19.7	− 0.4
	13	γ Cephei, S. P.		9	34 57.44	+ 2.69	− 33.38	295 49 49.72	+ 3 50.58	− 1 57.4	23 34 26.75	. .	346 58 4.1	+ 1.4
	14	β Leonis (R)			. . . .	. .	. .	156 15 52.68	+ 4 53.15	− 25.1	. . . .	. .	74 46 0.5	− 0.9
	15	β Leonis			. . . .	. .	. .	23 33 47.00	+ 5 27.81	+ 25.1	11 43 . .	. .	74 46 1.1	− 0.3
	16	4 Draconis		5	7 18.10	− 2.20	− 33.39	320 33 49.48	+ 3 59.92	− 47.1	12 6 42.51	. .	11 43 23.5	+ 1.0
	17	Polaris, S. P.		7	14 43.60	+23.92	− 33.42	307 31 47.75	+ 3 38.54	− 1 14.9	1 14 34.10	. .	358 40 32.6	+ 0.8
	18	Metis	9.3	9	26 46.98	+ 0.59	− 33.42	41 35 52.42	+ 4 34.54	+ 51.5	13 26 14.15	. .	92 47 39.7	− 3.6
	19	Thyra (?)	12	8	38 12.38	+ 0.98	− 33.42	68 1 50.18	+ 5 31.74	+ 2 23.3	13 37 39.94	. .	119 16 6.4	− 4.4
	20	B. A. C. 4649		9	50 5.53	− 0.36	− 33.43	344 29 50.08	+ 5 24.96	− 16.0	13 49 31.74	− 3.47	35 41 20.2	−10.4
	21	Weisse 931	9	7	56 6.72	+ 0.52	− 33.43	36 39 48.98	+ 5 41.15	+ 43.4	13 55 33.81	− 3.23	87 52 34.7	−16.7
	22	B. A. C. 4672		7	56 11.65	+ 0.52	− 33.43	36 39 48.98	+ 6 8.61	+ 43.4	13 55 38.74	− 3.23	87 53 2.2	−16.7
	23	κ Virginis		9	7 9.07	+ 0.67	− 33.43	48 31 49.45	+ 4 8.31	+ 1 5.8	14 6 36.31	− 3.37	99 43 24.8	−17.1
	24	B. A. C. 4759		9	16 19.03	+ 1.17	− 33.43	77 43 52.02	+ 3 41.45	+ 4 22.4	14 15 46.77	− 4.09	128 58 17.1	−16.6
	25	ρ Bootis		9	27 18.49	+ 0.14	**− 33.36**	7 55 53.10	+ 4 11.09	+ 8.2	14 26 45.19	. .	59 6 33.6	− 0.6
	26	ε Bootis		9	40 23.77	+ 0.19	**− 33.39**	11 13 49.48	+ 5 16.14	+ 11.7	14 39 50.52	. .	62 25 38.5	− 0.1
	27	Elpis	12	2	45 48.53	+ 0.62	− 33.44	44 19 49.68	+ 5 2.46	+ 57.0	14 45 15.71	. .	95 32 10.3	− 3.1
	28	β Ursæ Min. (R)			. . . .	. .	. .	215 39 45.45	+ 4 15.30	+ 41.9	. . . .	. .	15 21 38.5	− 1.3
	29	β Ursæ Minoris			. . . .	. .	. .	324 11 49.22	+ 4 11.66	− 41.9	14 51 . .	. .	15 21 40.2	+ 0.4
	30	β Libræ		9	11 12.59	+ 0.65	**− 33.58**	47 43 51.78	+ 5 28.89	+ 1 4.3	15 10 39.79	. .	98 56 46.2	− 1.7
W.	31	α Andromedæ		9	2 49.01	+ 0.31	**− 34.07**	10 23 51.20	+ 3 33.68	+ 10.6	0 2 15.14	. .	61 33 56.7	− 2.0
	32	γ Pegasi		9	7 41.22	+ 0.49	**− 34.17**	24 17 54.00	+ 3 35.34	+ 26.0	0 7 7.53	. .	75 28 36.5	− 0.9
	33	β Ceti		9	38 11.20	+ 0.92	**− 34.39**	57 25 52.82	+ 4 28.90	+ 1 29.8	0 37 37.94	. .	108 38 12.7	− 1.5
	34	β Andromedæ		9	3 38.99	+ 0.24	**− 34.08**	3 49 50.25	+ 4 22.05	+ 3.9	1 3 5.05	. .	55 0 37.4	+ 0.4
	35	Polaris		7	15 29.50	−21.00	− 34.18	310 9 50.12	+ 4 24.33	− 1 7.4	1 14 34.32	. .	1 19 28.2	− 0.2
30	36	Sun I, S.		9	31 36.03	+ 0.51	− 34.18	24 7 51.25	+ 3 23.03	+ 25.6	2 31 2.36	+65.95	75 18 1.1	. .
	37	Sun II, N.		7	33 47.93	+ 0.51	− 34.18	23 33 48.98	+ 5 37.94	+ 25.0	2 33 14.26	−65.95	74 46 13.1	. .
	38	Venus S.			. . . .	. .	. .	17 37 54.00	+ 5 51.98	+ 18.2	2 43 . .	. .	68 50 25.4	. .
	39	Moon I.		9	24 43.60	+ 0.42	− 34.18	16 28 . .	. .	. .	4 24 9.84	+68.09	67 23 . .	. .
	40	α Tauri		9	29 40.23	+ 0.50	**− 34.15**	22 32 . .	. .	. .	4 29 6.55	. .	73 44 . .	. .
	41	ι Aurigæ		9	49 49.77	+ 0.28	**− 34.14**	5 50 . .	. .	. .	4 49 15.87	. .	57 1 . .	. .
	42	β Orionis		9	9 23.43	+ 0.80	**− 34.31**	47 8 . .	. .	. .	5 8 50.04	. .	98 21 . .	. .
	43	β Tauri		9	19 21.27	+ 0.34	**− 34.14**	10 18 . .	. .	. .	5 18 47.42	. .	61 30 . .	. .
	44	υ Leonis		9	31 27.77	+ 0.45	**− 34.04**	38 57 56.12	+ 5 16.54	+ 46.8	11 30 54.09	. .	90 10 20.7	+ 0.6
	45	β Leonis		9	43 36.09	+ 0.32	**− 34.18**	23 33 50.80	+ 5 26.43	+ 25.3	11 43 2.28	. .	74 46 3.7	+ 2.4
	46	Groom. 4163, S. P.		9	49 34.76	+ 1.40	− 34.13	292 35 54.38	+ 4 56.65	− 2 17.3	23 49 2.03	. .	343 44 54.9	+ 3.9
	47	ο Virginis		9	59 45.57	+ 0.36	**− 34.18**	29 25 55.42	+ 3 51.08	+ 32.7	11 59 11.79	. .	80 36 40.4	+ 1.8
	48	B. A. C. 4195 (R)			. . . .	. .	. .	169 57 54.98	+ 4 14.77	− 10.2	. . . .	. .	61 4 21.6	−12.4
	49	B. A. C. 4195			. . . .	. .	. .	9 53 53.75	+ 3 57.07	+ 10.2	12 21 . .	. .	61 4 22.2	−12.4
	50	B. A. C. 4350		9	52 19.38	− 0.02	− 34.14	351 59 48.72	+ 4 47.26	− 8.1	12 51 45.22	− 3.33	43 10 49.1	− 9.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
8	29.94	66.2	64.0
10	30.10	63.2	61.3
17	30.12	59.8	56.0
22	30.14	58.3	53.8
29	30.15	56.3	52.5
32	30.29	59.4	61.6
35	30.29	63.1	64.4
37	30.26	64.8	65.2
40	30.27	68.7	68.3
43	30.26	69.4	69.1
44	30.31	61.7	60.2

For summary of the constants of reduction see page 3.

2, 27, 37, 49. One bisection.
35. Three bisections.
17. Five bisections.

ZENITH-POINT CORR.

″

1 to 8 + 37.65
9 to 30 + 38.68
31 to 38 + 37.50
44 to 50 + 36.34

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
36	− 3.6	− 15 54.0	. .	− 15 57.6
37	− 3.5	+ 15 54.0	. .	+ 15 50.5
38	− 9.2	− 29.6	. .	− 38.8

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
April 30, W.	1	Lal. (F.) 179, S. P.	.	9	3 22.40	+ 1.06	− 34.14	286 1 49.48	+ 3 51.62	− 3 18.6	1 2 49.32	+ 0.20	337 8 43.7	− 1.4
	2	Polaris, S. P.	.	7	14 53.57	+15.25	− 34.15	307 31 49.65	+ 3 37.35	− 1 15.4	1 14 34.67	. .	358 40 32.8	+ 1.3
	3	Metis	.	.	. . .	. .	. .	41 33 51.35	+ 4 16.78	+ 51.7	13 25 . .	. .	92 45 21.0	− 3.6
	4	Lalande 25839	.	9	58 6.14	− 0.03	− 34.15	352 29 47.45	+ 4 21.60	− 7.6	13 57 31.96	− 3.29	43 40 22.6	−11.5
	5	α Bootis	.	9	10 51.10	+ 0.26	**− 34.20**	18 59 49.28	+ 5 35.26	+ 20.3	14 10 17.21	. .	70 12 6.0	− 0.2
	6	θ Bootis (R)	.	.	. . .	. .	. .	193 25 50.85	+ 4 9.46	+ 14.1	. . . .	. .	37 36 6.8	− 0.3
	7	θ Bootis	.	.	. . .	. .	. .	346 25 53.12	+ 4 9.50	− 14.1	14.21 . .	. .	37 36 9.7	+ 2.6
	8	ρ Bootis	.	9	27 19.23	+ 0.15	**− 34.11**	7 55 53.75	+ 4 10.68	+ 8.2	14 26 45.22	. .	59 6 33.8	− 0.2
	9	ε Bootis	.	9	40 24.56	+ 0.18	**− 34.16**	11 13 53.20	+ 5 12.17	+ 11.8	14 39 50.58	. .	62 25 38.4	0.0
May 1, E.	10	α Aurigæ	.	9	8 29.28	+ 0.14	**− 34.12**	352 58 . .	. . .	. .	5 7 55.36	. .	44 7 . .	. .
	11	β Orionis	.	9	9 23.61	+ 0.36	**− 34.05**	47 7 59.28	+ 5 8.73	+ 1 1.3	5 8 49.90	. .	98 20 30.5	− 0.9
	12	β Tauri	.	9	19 21.30	+ 0.20	**− 34.03**	10 17 57.02	+ 5 11.52	+ 10.4	5 18 47.43	. .	61 29 40.1	+ 0.1
	13	Moon I	.	5	20 7.86	+ 0.23	− 34.07	16 10 . .	. . .	. .	5 19 34.02	+67.61	67 4 . .	. .
	14	μ Geminorum	.	9	16 20.99	+ 0.23	**− 34.08**	16 13 51.05	+ 5 9.70	+ 16.6	6 15 47.11	. .	67 25 38.6	− 0.6
	15	γ Geminorum	.	9	31 25.57	+ 0.25	**− 34.14**	22 17 55.18	+ 5 27.73	+ 23.3	6 30 51.71	. .	73 30 7.4	+ 0.6
7, R.	16	Moon N.	.	.	. . .	. .	. .	34 5 58.90	+ 4 20.12	+ 38.5	10 20 . .	. .	85 17 18.7	. .
	17	ζ Leonis	.	9	43 39.97	+ 0.16	**− 37.46**	27 37 56.78	+ 4 57.73	+ 29.8	10 43 2.70	. .	78 49 45.5	− 1.3
	18	Uranus C.	.	9	46 44.09	+ 0.17	− 37.42	30 7 58.05	+ 4 19.88	+ 33.1	10 46 6.84	. .	81 19 12.2	. .
	19	α Ursæ Maj. (R)	.	.	. . .	. .	. .	203 25 53.22	+ 3 39.70	+ 24.7	. . . .	. .	27 36 23.6	− 1.0
	20	α Ursæ Maj.	.	.	. . .	. .	. .	336 25 55.60	+ 4 34.20	− 24.7	10 56 . .	. .	27 36 26.3	+ 1.7
	21	δ Leonis	.	9	8 26.70	+ 0.10	**− 37.36**	17 37 57.90	+ 5 3.42	+ 18.2	11 7 49.38	. .	68 49 40.7	0.0
	22	δ Crateris	.	9	14 3.36	+ 0.31	**− 37.47**	52 55 58.42	+ 4 53.13	+ 1 15.5	11 13 26.25	. .	104 8 28.3	0.0
	23	Taylor 5270	.	9	26 5.42	+ 0.63	− 37.42	82 59 54.42	+ 5 38.74	+ 7 18.4	11 25 28.63	− 2.97	134 19 12.8	−29.1
	24	γ Cephei, S. P.	.	9	35 4.17	+ 0.67	− 37.42	295 49 53.22	+ 3 45.71	− 1 56.9	23 34 27.42	. .	346 58 3.2	+ 1.6
	25	B. A. C. 4002	.	9	45 9.90	+ 0.21	− 37.42	36 21 53.05	+ 5 14.59	+ 42.1	11 44 32.69	− 2.82	87 34 10.9	−18.2
	26	Groom. 4163, S. P.	.	9	49 39.69	+ 0.53	− 37.42	292 35 55.75	+ 4 50.65	− 2 15.7	23 49 2.80	. .	343 44 51.9	+ 1.9
	27	ο Virginis	.	9	59 48.93	+ 0.17	**− 37.40**	29 25 56.70	+ 3 47.95	+ 32.3	11 59 11.68	. .	80 36 38.1	0.0
	28	4 Draconis	.	9	7 20.10	− 0.69	− 37.42	320 33 52.50	+ 3 54.94	− 46.9	12 6 41.99	. .	11 43 21.7	+ 0.9
	29	Polaris, S. P.	.	5	15 8.20	+ 7.10	− 37.40	307 31 52.55	+ 3 31.09	− 1 14.5	1 14 37.90	. .	358 40 30.3	+ 0.5
	30	Lalande 25012	7.5	9	26 19.30	+ 0.22	− 37.40	40 31 53.30	+ 3 59.97	+ 49.2	13 25 42.12	− 3.21	91 43 3.7	−17.6
	31	Weisse (2) 685	6.7	9	35 31.07	+ 0.02	− 37.40	7 11 50.65	+ 5 8.03	+ 7.3	13 34 53.69	− 3.15	58 23 27.2	−11.7
	32	B. A. C. 4624	.	9	45 52.47	+ 0.44	− 37.40	69 47 56.02	+ 5 6.93	+ 2 35.6	13 45 15.51	− 3.74	121 1 59.8	−20.1
	33	Groom. 410, S. P.	.	6	51 45.76	+ 0.64	− 37.40	293 45 54.32	+ 5 24.05	− 2 9.2	1 51 9.00	+ 0.73	344 55 30.4	− 2.4
	34	Groom. 409, S. P.	.	6	51 48.03	+ 0.64	− 37.40	293 45 54.32	+ 3 29.07	− 2 9.4	1 51 11.27	+ 0.73	344 53 35.2	− 2.4
	35	Weisse 931	8.5	5	56 11.14	+ 0.19	− 37.40	36 39 53.30	+ 5 35.56	+ 42.9	13 55 33.93	− 3.26	87 52 33.0	−16.2
	36	B. A. C. 4672	.	8	56 16.05	+ 0.19	− 37.40	36 39 53.30	+ 6 2.98	+ 42.9	13 55 38.84	− 3.26	87 53 0.4	−16.2
	37	α Bootis	.	9	10 54.52	+ 0.09	**− 37.42**	18 59 51.55	+ 5 33.56	+ 19.9	14 10 17.21	. .	70 12 6.2	+ 1.1
	38	B. A. C. 4759	5	9	16 23.84	+ 0.52	− 37.40	77 43 54.60	+ 3 42.00	+ 4 19.5	14 15 46.96	− 4.14	128 58 17.3	−17.9
	39	Taylor 6714	7.2	8	18 27.07	+ 0.50	− 37.40	75 39 53.75	+ 4 39.23	+ 3 42.3	14 17 50.17	− 4.07	126 54 36.5	−17.7
	40	ρ Bootis	.	9	27 22.68	+ 0.02	**− 37.40**	7 55 55.92	+ 4 5.77	+ 8.1	14 26 45.30	. .	59 6 31.0	− 1.4
	41	B. A. C. 4813	.	6	28 41.62	+ 0.55	− 37.40	79 43 53.52	+ 4 29.96	+ 5 9.1	14 28 4.77	− 4.28	130 59 53.8	−16.8
	42	ε Bootis	.	9	40 27.96	+ 0.04	**− 37.39**	11 13 53.78	+ 5 9.55	+ 11.5	14 39 50.60	. .	62 25 36.0	− 0.8
	43	β Ursæ Minoris	.	6	51 46.58	− 0.57	− 37.40	324 11 50.62	+ 4 7.88	− 41.4	14 51 8.61	. .	15 21 38.3	+ 1.1

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	30.30	57.9	55.7
9	30.36	55.4	51.8
11	30.32	68.0	68.2
15	30.30	67.2	69.0
16	30.07	66.2	64.6
22	30.07	64.3	62.6
26	30.07	63.3	61.3
30	30.06	59.8	57.7
36	30.07	60.3	57.9

For summary of the constants of reduction see page 3.

2, 16. Three bisections.
3, 26, 28. Four bisections.
29. Five bisections.

ZENITH-POINT CORR.

	″
1 to 9	+ 36.34
11 to 15	+ 34.65
16 to 43	+ 34.21

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
16	−30 44.2	+ 15 1.8	. .	− 15 42.4
18	− 0.2	. . .	. .	− 0.2

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT. ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
May														
8, W.	1	l Leonis		9	43 40.76	+ 0.13	— **38.23**	27 37 55.28	+ 4 59.23	+ 29.7	10 43 2.63	. .	78 49 45.4	— 1.4
	2	α Ursæ Majoris		9	57 4.50	— 0.13	— 38.27	336 25 55.82	+ 4 32.84	— 24.6	10 56 26.10	. .	27 36 25.3	+ 0.8
	3	Moon I, N.		9	6 16.81	+ 0.18	— 38.27	39 5 54.38	+ 3 42.72	+ 46.1	11 5 38.72	+62.80	90 16 44.4	. .
	4	δ Crateris		9	14 4.32	+ 0.24	— **38.37**	52 55 57.28	+ 4 54.06	+ 1 15.1	11 13 26.28	. .	104 8 27.6	— 0.7
	5	τ Leonis		9	22 29.82	+ 0.15	— **38.22**	35 17 57.82	+ 4 37.28	+ 40.2	11 21 51.69	. .	86 29 36.5	— 0.2
	6	υ Leonis (R.)			. . . .	. .	. .	140 51 54.85	+ 4 52.05	— 46.0	. . . .	. .	90 10 20.3	+ 0.5
	7	υ Leonis			. . . .	. .	. .	38 57 58.80	+ 5 14.34	+ 46.0	11 31 . .	. .	90 10 20.3	+ 0.5
	8	γ Ursæ Maj. (R)			. . . .	. .	. .	195 23 52.00	+ 3 31.93	+ 15.7	. . . .	. .	35 38 41.6	+ 0.6
	9	γ Ursæ Majoris		3	48 15.76	— 0.08	— 38.29	344 27 58.55	+ 4 38.26	— 15.7	11 47 37.39	. .	35 38 42.3	+ 1.3
	10	B. A. C. 4165		4	15 32.99	— 2.98	— 38.30	310 27 55.80	+ 5 13.49	— 1 6.3	12 14 51.71	—27.46	1 38 24.2	+ 1.1
	11	B. A. C. 4195		9	21 41.62	+ 0.04	— 38.30	9 53 52.62	+ 3 58.87	+ 10.0	12 21 3.36	— 3.00	61 4 22.7	—11.1
	12	β Corvi		9	28 49.50	+ 0.30	— **38.34**	61 31 53.20	+ 4 41.98	+ 1 44.8	12 28 11.49	. .	112 44 41.2	— 0.7
	13	B. A. C. 4271		9	36 32.83	+ 0.11	— 38.31	27 55 58.02	+ 3 55.14	+ 30.2	12 35 54.63	— 3.00	79 6 44.5	—15.8
	14	a^1 Can. Ven.		6	51 7.82	— 0.01	— 38.31	359 51 52.50	+ 4 28.16	— 0.1	12 50 29.50	— 3.14	51 2 41.8	— 9.2
	15	a^2 Can. Ven.		5	51 9.04	— 0.01	— **38.28**	359 51 52.50	+ 4 13.66	— 0.1	12 50 30.72	. .	51 2 27.3	— 1.3
	16	θ Virginis		9	4 28.63	+ 0.18	— **38.30**	43 41 54.08	+ 5 22.41	+ 54.6	13 3 50.49	. .	94 54 32.3	+ 1.5
	17	O. Arg. N. 13510		4	13 16.98	— 0.24	— 38.32	329 47 54.75	+ 4 14.34	— 33.1	13 12 38.42	— 4.15	20 57 57.2	— 4.2
	18	Polaris, S. P.		5	15 12.76	+ 3.91	— 38.32	307 31 49.85	+ 3 33.84	— 1 14.0	1 14 38.35	. .	358 40 30.9	+ 1.3
	19	ζ Virginis		9	29 19.19	+ 0.16	— **38.35**	38 47 58.52	+ 4 24.32	+ 46.1	13 28 41.02	. .	89 59 30.1	— 0.3
	20	η Bootis (R)			. . . .	. .	. .	160 1 52.95	+ 4 17.30	— 20.7	. . . .	. .	71 0 31.7	— 0.9
	21	η Bootis			. . . .	. .	. .	19 49 52.78	+ 3 58.47	+ 20.7	13 49 . .	. .	71 0 33.1	+ 0.5
E.	22	α Andromedæ		9	2 53.93	+ 0.17	— **38.62**	10 23 52.90	+ 3 33.93	+ 10.5	0 2 15.29	. .	61 33 58.5	0.0
	23	γ Pegasi		9	7 46.24	+ 0.26	— **38.75**	24 17 56.52	+ 3 52.67	+ 25.7	0 7 7.69	. .	75 28 36.1	— 0.7
	24	β Ceti		4	38 16.24	+ 0.52	— **39.05**	57 25 55.02	+ 4 26.89	+ 1 28.5	0 37 38.15	. .	108 38 11.6	— 0.6
	25	Polaris		5	15 27.20	— 8.27	— 38.81	310 9 50.68	+ 4 25.77	— 1 6.4	1 14 40.12	. .	1 19 31.2	+ 0.6
9	26	Sun I, N.		9	6 21.83	+ 0.29	— 38.81	21 1 51.52	+ 4 8.31	+ 21.4	3 5 43.31	+66.67	72 12 42.4	. .
	27	Sun II, S.		9	8 35.17	+ 0.29	— 38.81	21 33 50.42	+ 3 50.88	+ 22.0	3 7 56.65	—66.67	72 44 24.5	. .
	28	α Tauri		9	29 45.09	+ 0.30	— **38.81**	22 31 52.78	+ 5 18.62	+ 23.1	4 29 6.58	. .	73 43 55.7	+ 2.9
	29	ι Aurigæ		9	49 54.47	+ 0.20	— **38.79**	5 49 51.58	+ 5 7.79	+ 5.7	4 49 15.86	. .	57 1 26.3	+ 2.0
	30	α Aurigæ			. . . .	. .	. .	352 57 55.68	+ 3 17.27	— 6.8	5 8 . .	. .	44 7 27.4	+ 1.2
	31	β Tauri		9	19 26.04	+ 0.23	— 38.84	10 17 54.00	+ 5 16.51	+ 10.1	5 18 47.46	. .	61 29 41.8	+ 1.4
	32	Uranus I, C.		6	46 41.82	+ 0.26	— 38.83	30 7 57.70	+ 4 6.00	+ 32.6	10 46 3.25	+ 0.15	81 18 57.5	. .
	33	Uranus II		5	46 42.12	+ 0.26	— 38.83	. . . .	. .	. .	10 46 3.55	— 0.15	. . . .	. .
	34	δ Leonis		9	8 28.06	+ 0.16	— **38.80**	17 37 52.92	+ 5 9.41	+ 17.9	11 7 49.38	. .	68 49 41.4	+ 0.9
	35	δ Crateris		9	14 4.72	+ 0.44	— **38.98**	52 55 55.68	+ 4 57.16	+ 1 14.2	11 13 26.32	. .	104 8 28.2	— 0.1
	36	τ Leonis		9	22 30.30	+ 0.29	— **38.85**	35 17 54.00	+ 4 41.81	+ 39.8	11 21 51.74	. .	86 29 36.8	+ 0.2
	37	β Leonis		9	43 40.71	+ 0.20	— **38.76**	23 33 48.22	+ 5 27.74	+ 24.6	11 43 2.05	. .	74 46 1.8	+ 1.3
	38	Moon I, N.		9	54 28.06	+ 0.36	— 38.86	44 13 51.30	+ 3 3.60	+ 54.7	11 53 49.56	+63.94	95 24 10.8	. .
	39	κ Draconis		9	29 7.39	— 0.57	— 38.88	328 23 52.12	+ 3 43.56	— 34.5	12 28 27.94	. .	19 33 22.4	+ 0.1
	40	21 Cassiopeæ, S. P.		5	38 26.36	+ 0.96	— 38.89	293 11 46.50	+ 4 15.80	— 2 10.2	0 37 48.43	. .	344 20 13.3	+ 0.3
	41	a^2 Can. Ven.		9	51 9.54	0.00	— **38.80**	359 51 48.62	+ 4 19.38	— 0.1	12 50 30.65	. .	51 2 29.1	+ 0.7
	42	θ Virginis		9	4 29.13	+ 0.36	— **38.98**	43 41 50.62	+ 5 26.62	+ 54.0	13 3 50.59	. .	94 54 32.4	+ 1.6
	43	O. Arg. N. 13510		9	13 17.31	— 0.54	— 38.90	329 47 53.58	+ 4 15.50	— 32.8	13 12 37.87	— 4.12	20 57 57.5	— 3.9
	44	Polaris, S. P.		7	15 8.29	+11.07	— 38.91	307 31 46.02	+ 3 36.24	— 1 13.2	1 14 40.45	. .	358 40 30.3	+ 1.1
	45	Lalande 25032		9	26 20.59	+ 0.32	— 38.91	40 31 51.62	+ 4 2.73	+ 48.4	13 25 42.00	— 3.21	91 43 4.0	—17.5
	46	ζ Virginis		9	29 19.63	+ 0.30	— **38.93**	38 47 53.22	+ 4 30.54	+ 45.5	13 28 41.02	. .	89 59 30.5	+ 0.2
S.	47	β Ceti		9	38 16.56	+ 0.53	— **39.16**	57 25 52.40	+ 4 30.95	+ 1 27.6	0 37 38.05	. .	108 38 12.2	+ 0.2
	48	β Andromedæ		9	3 44.19	+ 0.06	— **38.88**	3 49 49.62	+ 4 24.56	+ 3.8	1 3 5.20	. .	55 0 39.2	+ 1.8
	49	Polaris		6	15 29.12	—10.90	— 39.05	310 9 49.00	+ 4 27.16	— 1 5.8	1 14 39.17	. .	1 19 31.6	+ 0.7
	50	α Arietis		9	1 7.92	+ 0.18	— **39.10**	15 55 52.22	+ 3 31.89	+ 15.9	2 0 29.04	. .	67 6 1.2	+ 0.6

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.18	69.0	67.8
14	30.13	65.3	63.7
21	30.14	62.9	60.8
22	30.19	65.0	66.6
27	30.18	74.2	77.0
31	30.16	78.5	80.0
32	30.14	73.5	73.0
46	30.16	70.0	68.0
47	30.19	72.0	73.5

For summary of the constants of reduction see page 3.

18, 38, 49. Three bisections.
3, 12. Four bisections.
3. Five bisections.

ZENITH-POINT CORR.

°	″
1 to 21	+ 33.58
22 to 31	+ 33.61
32 to 46	+ 33.20
47 to 50	+ 33.72

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
3	— 34 58.1	+ 15 11.8	. .	— 19 46.3
26	— 3.1	+ 15 51.1	. .	+ 15 48.0
27	— 3.2	— 15 51.0	. .	— 15 54.2
32	— 0.2	. .	. .	— 0.2
38	— 39 11.9	+ 15 23.8	. .	— 23 48.1

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
May					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
), S.	1	Sun I, N.		9	10 16.11	+ 0.24	— 39.07	20 45 50.42	+ 4 28.42	+ 20.9	3 9 37.28	+66.74	71 57 0.9	. .
	2	Sun II, S.		9	12 29.60	+ 0.24	— 39.07	21 17 50.45	+ 4 10.82	+ 21.5	3 11 50.77	—66.75	72 28 44.0	. .
	3	α Tauri		3	29 45.31	+ 0.26	**— 38.99**	22 31 47.98	+ 5 23.50	+ 22.8	4 29 6.49	. .	73 43 55.5	+ 2.7
	4	β Orionis		9	9 28.59	+ 0.47	**— 39.18**	47 7 54.72	+ 5 17.47	+ 59.0	5 8 49.98	. .	98 20 32.4	+ 2.1
	5	β Tauri		9	19 26.34	+ 0.17	**— 39.08**	10 17 51.60	+ 5 19.67	+ 10.0	5 18 47.42	. .	61 29 42.5	+ 2.0
	6	α Leonis		9	2 43.18	+ 0.36	**— 39.19**	26 15 48.40	+ 4 43.52	+ 27.4	10 2 4.39	. .	77 27 20.5	+ 0.7
	7	l Leonis		9	43 41.43	+ 0.37	**— 39.16**	27 37 51.58	+ 5 5.11	+ 29.2	10 43 2.60	. .	78 49 47.1	+ 0.5
	8	Uranus C.		9	46 40.90	+ 0.40	— 39.20	30 7 52.42	+ 4 6.11	+ 32.4	10 46 2.10	. .	81 18 52.1	. .
	9	α Ursæ Majoris		8	57 5.26	— 0.44	— 39.22	336 25 51.95	+ 4 37.92	— 24.2	10 56 25.60	. .	27 36 26.9	+ 2.6
	10	δ Leonis (R)			. . . .	. .	. .	162 11 46.48	+ 5 12.87	— 17.8	. . . .	. .	68 49 39.6	— 0.8
	11	δ Leonis			. . . .	. .	. .	17 37 51.45	+ 5 10.67	+ 17.8	11 8 . .	. .	68 49 41.1	+ 0.7
	12	o Virginis		9	59 50.61	+ 0.38	**— 39.32**	29 25 49.70	+ 3 55.65	+ 31.6	11 59 11.69	. .	80 36 38.2	+ 0.4
	13	B. A. C. 4123 (R)			. . . .	. .	. .	198 41 44.32	+ 5 54.04	+ 19.0	. . . .	. .	32 18 23.8	— 3.3
	14	B. A. C. 4123			. . . .	. .	. .	341 7 53.20	+ 4 30.30	— 19.0	12 10 . .	. .	32 18 25.7	— 3.3
	15	β Corvi		9	28 50.16	+ 0.76	**— 39.48**	61 31 48.68	+ 4 48.33	+ 1 43.2	12 28 11.58	. .	112 44 41.4	— 0.6
	16	21 Cassiopeæ, S. P.		9	38 25.92	+ 1.64	— 39.33	293 11 50.50	+ 4 11.28	— 2 9.5	0 37 48.23	. .	344 20 13.5	+ 0.7
	17	α^2 Can. Ven.		9	51 9.90	+ 0.04	**— 39.21**	359 51 47.98	+ 4 19.58	— 0.1	12 50 30.62	. .	51 2 28.7	+ 0.5
	18	B. A. C. 4458		7	14 36.89	+ 0.99	— 39.30	74 51 53.02	+ 3 47.20	+ 3 25.1	13 13 58.58	— 3.70	126 5 26.5	—23.1
	19	Polaris, S. P.		8	15 1.08	+17.74	— 39.30	307 31 51.50	+ 3 29.69	— 1 12.8	1 14 39.52	. .	358 40 29.6	+ 0.6
	20	B. A. C. 4643		8	46 38.48	— 3.23	— 39.28	315 29 47.45	+ 3 54.61	— 55.1	13 45 55.97	— 7.97	6 39 8.2	— 3.2
	21	B. A. C. 4674		9	56 49.72	+ 0.89	— 39.27	69 53 55.75	+ 4 12.22	+ 2 33.0	13 56 11.34	— 3.80	121 7 2.2	—19.6
	22	α Bootis		9	10 56.24	+ 0.25	**— 39.30**	18 59 52.30	+ 5 32.04	+ 19.5	14 10 17.23	. .	70 12 5.0	+ 0.4
	23	ρ Bootis		9	27 24.38	+ 0.13	**— 39.21**	7 55 56.72	+ 4 4.51	+ 7.9	14 26 45.26	. .	59 6 30.3	— 1.4
), W.	24	β Andromedæ		9	3 45.72	+ 0.28	**— 40.58**	3 49 45.30	+ 4 29.02	+ 3.7	1 3 5.39	. .	55 0 39.2	+ 1.7
	25	Polaris		5	15 49.16	—28.27	— 40.61	310 9 45.67	+ 4 31.03	— 1 4.5	1 14 40.28	. .	1 19 33.4	+ 2.0
	26	α Arietis		9	1 9.19	+ 0.51	**— 40.67**	15 55 48.52	+ 3 33.85	+ 15.6	2 0 29.07	. .	67 5 59.2	— 1.4
2	27	Sun I, N.		9	18 6.94	+ 0.60	— 40.66	20 15 52.35	+ 4 2.01	+ 20.0	3 17 26.88	+66.91	71 26 35.6	. .
	28	Sun II, S.		9	20 20.76	+ 0.60	— 40.66	20 47 51.60	+ 3 42.45	+ 20.6	3 19 40.70	—66.91	71 58 15.8	. .
	29	υ Leonis		9	31 34.17	+ 0.82	**— 40.92**	38 57 50.42	+ 5 23.27	+ 44.7	11 30 54.16	. .	90 10 19.6	— 0.1
	30	β Leonis		9	43 42.37	+ 0.57	**— 40.82**	23 33 45.90	+ 5 28.79	+ 24.1	11 43 2.09	. .	74 46 0.0	— 0.2
	31	γ Ursæ Majoris		9	48 18.46	— 0.35	— 40.85	344 27 52.00	+ 4 40.74	— 15.2	11 47 37.26	. .	35 38 38.7	— 1.6
	32	o Virginis		9	59 51.84	+ 0.67	**— 40.85**	29 25 51.38	+ 3 52.45	+ 31.2	11 59 11.64	. .	80 36 36.2	— 1.5
	33	4 Draconis		9	7 26.01	— 2.88	— 40.88	320 33 46.38	+ 3 58.79	— 45.3	12 6 42.25	. .	11 43 21.1	+ 1.2
	34	η Virginis		9	14 32.02	+ 0.82	**— 40.84**	38 47 47.52	+ 5 45.01	+ 44.5	12 13 51.95	. .	90 0 38.2	+ 0.2
	35	κ Draconis (R)			. . . .	. .	. .	211 27 49.88	+ 4 37.73	+ 33.9	. . . .	. .	19 33 19.7	— 2.0
	36	κ Draconis			. . . .	. .	. .	328 23 47.70	+ 3 47.49	— 33.9	12 28 . .	. .	19 33 22.5	+ 0.8
	37	Polaris, S. P.		5	14 49.50	+32.05	— 40.97	307 31 42.38	+ 3 35.70	— 1 11.9	1 14 40.58	. .	358 40 27.4	— 1.0
	38	B. A. C. 4643		9	46 43.01	— 5.66	— 41.01	315 29 46.42	+ 3 53.14	— 54.5	13 45 56.34	— 7.78	6 39 6.3	— 2.6
	39	α Bootis		9	10 57.63	+ 0.48	**— 40.92**	18 59 44.78	+ 5 38.47	+ 19.3	14 10 17.07	. .	70 12 3.7	— 0.6
	40	θ Bootis		9	21 53.62	— 0.29	**— 41.23**	346 26 . .	. . . .	. .	14 21 12.27	. .	37 36 . .	. .
	41	Moon S.			. . . .	. .	. .	58 25 48.62	+ 5 11.35	+ 1 30.7	14 37 . .	. .	109 38 51.9	. .
	42	α^2 Libræ		9	45 1.38	+ 1.09	**— 41.07**	54 19 49.10	+ 5 34.43	+ 1 17.8	14 44 21.39	. .	105 33 2.5	+ 0.4
	43	β Bootis		9	58 12.03	+ 0.06	**— 41.06**	357 57 49.82	+ 4 21.89	— 1.9	14 57 30.99	. .	49 8 31.0	— 1.0
), W.	44	l Leonis		8	43 46.13	+ 0.39	**— 43.95**	27 37 55.22	+ 5 1.42	+ 29.6	10 43 2.50	. .	78 49 47.4	+ 1.2
	45	ι Cephei, S. P.		9	46 10.42	+ 1.14	— 44.02	284 27 51.28	+ 4 3.41	— 3 53.7	22 45 27.54	. .	335 34 22.2	— 0.7
	46	α Ursæ Maj. (R)			. . . .	. .	. .	203 25 51.82	+ 3 44.58	+ 24.5	. . . .	. .	27 36 20.3	— 3.4
	47	α Ursæ Maj.		7	57 10.36	— 0.30	— 44.02	336 25 53.60	+ 4 33.99	— 24.5	10 56 26.04	. .	27 36 24.3	+ 0.6
	48	δ Leonis		9	8 33.04	+ 0.31	**— 44.02**	17 37 55.62	+ 5 5.75	+ 18.0	11 7 49.33	. .	68 49 40.6	+ 0.8
	49	δ Crateris		9	14 9.53	+ 0.62	**— 44.05**	52 55 55.80	+ 4 57.49	+ 1 14.8	11 13 26.13	. .	104 8 29.3	+ 1.1
	50	τ Leonis		6	22 35.27	+ 0.46	**— 44.06**	35 17 56.60	+ 4 37.85	+ 40.1	11 21 51.71	. .	86 29 35.7	— 0.5

).	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	30.18	79.4	82.0
3	30.15	82.9	84.5
5	30.15	84.0	85.1
7	30.14	77.2	75.9
4	30.16	74.0	73.0
0	30.17	72.0	70.3
3	30.16	71.8	69.7
4	30.14	79.4	84.8
8	30.12	86.4	90.0
1	30.05	79.8	78.7
7	30.05	76.6	75.5
3	30.15	75.2	74.4
4	29.77	64.7	62.6

For summary of the constants of reduction see page 3.

	ZENITH-POINT CORR.	
	″	
20. One bisection.	1 to 5	+ 33.72
25, 37. Three bisections.	6 to 23	+ 34.49
6, 8, 15, 17, 26, 48. Four bisections.	24 to 28	+ 36.05
	29 to 43	+ 34.64
	44 to 50	+ 45.37

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
1	— 3.1	+ 15 51.5	. .	+ 15 48.4
2	— 3.2	— 15 51.5	. .	— 15 54.7
8	— 0.2	. .	. .	— 0.2
27	— 3.0	+ 15 50.1	. .	+ 15 47.1
28	— 3.1	— 15 50.1	. .	— 15 53.2
41	—49 58.7	— 16 2.9	. .	— 66 1.6

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
May 16, W.	1	Weisse 349		5	22 36.02	+ 0.46	− 44.02	35 17 56.60	+ 6 11.22	+ 40.1	11 21 52.46	− 2.63	86 31 9.1	−17.4
	2	Tr. Z. 6, 7		9	26 39.87	+ 0.93	− 44.02	78 15 53.45	+ 5 12.96	+ 4 26.6	11 25 56.78	− 2.78	129 31 54.2	−29.2
	3	υ Leonis		9	31 37.54	+ 0.49	**− 44.00**	38 57 56.08	+ 5 17.23	+ 45.8	11 30 54.01	. .	90 10 20.3	+ 0.9
	4	B. A. C. 3981		9	40 32.92	0.00	− 44.02	350 23 52.00	+ 3 40.05	− 9.5	11 39 48.90	− 2.97	41 33 43.7	− 3.6
	5	B. A. C. 4002		9	45 16.07	+ 0.47	− 44.02	36 21 52.30	+ 5 17.25	+ 41.7	11 44 32.52	− 2.74	87 34 12.5	−17.7
	6	B. A. C. 4195 (R)			. . . .	. .	. .	169 57 53.02	+ 4 17.20	− 9.9	. . . .	. .	61 4 20.9	− 9.9
	7	B. A. C. 4195			. . . .	. .	. .	9 53 51.42	+ 4 0.83	+ 9.9	12 21 . .	. .	61 4 23.3	− 9.9
	8	B. A. C. 4271 (R)			. . . .	. .	. .	151 55 53.80	+ 4 12.68	− 30.1	. . . .	. .	79 6 44.8	−15.0
	9	B. A. C. 4271			. . . .	. .	. .	27 55 54.20	+ 3 59.38	+ 30.1	12 36 . .	. .	79 6 44.9	−15.0
	10	Polaris, S. P.		8	15 11.15	+16.80	− 44.02	307 31 50.48	+ 3 31.48	− 1 13.6	1 14 43.93	. .	358 40 29.6	+ 2.0
	11	B. A. C. 4568		9	37 1.22	− 0.16	− 44.02	343 31 51.05	+ 5 7.36	− 16.7	13 36 17.04	− 3.34	34 43 2.9	− 5.2
20, W.	12	β Leonis		8	43 48.88	+ 0.03	**− 46.87**	23 33 57.88	+ 5 17.38	+ 24.9	11 43 2.06	. .	74 46 1.4	+ 2.0
	13	ο Virginis		9	59 58.49	+ 0.04	**− 46.94**	29 26 0.80	+ 3 43.47	+ 32.2	11 59 11.67	. .	80 36 37.7	+ 0.8
	14	4 Draconis (R)			. . . .	. .	. .	219 17 58.68	+ 4 17.80	+ 46.7	. . . .	. .	11 43 18.0	− 0.6
	15	4 Draconis		5	7 28.69	− 0.28	− 46.86	320 33 58.90	+ 3 48.26	− 46.7	12 6 41.55	. .	11 43 21.7	+ 3.1
	16	η Virginis		9	14 38.67	+ 0.06	**− 46.79**	38 48 0.72	+ 5 30.81	+ 46.0	12 13 51.86	. .	90 0 38.7	+ 1.2
	17	B. A. C. 4211[2]		9	24 32.28	+ 0.11	− 46.87	54 39 59.80	+ 3 51.49	+ 1 20.5	12 23 45.52	− 3.00	105 51 33.0	−22.3
	18	κ Draconis (R)			. . . .	. .	. .	211 28 0.70	+ 4 25.67	+ 35.0	. . . .	. .	19 33 19.8	− 0.3
	19	κ Draconis			. . . .	. .	. .	328 23 56.80	+ 3 38.29	− 35.0	12 28 . .	. .	19 33 21.3	− 1.2
	20	O. Arg. N. 13510		5	13 24.70	− 0.17	− 46.91	329 47 59.98	+ 4 8.67	− 33.2	13 12 37.62	− 3.77	20 57 56.6	− 1.2
	21	Polaris, S. P.		5	15 30.92	+ 2.32	− 46.91	307 31 53.80	+ 3 29.11	− 1 14.2	1 14 46.33	. .	358 40 29.9	+ 3.0
	22	ζ Virginis		9	29 27.81	+ 0.06	**− 46.89**	38 48 4.30	+ 4 18.23	+ 46.1	13 28 40.95	. .	89 59 29.8	+ 0.2
	23	η Bootis (R)			. . . .	. .	. .	160 1 56.85	+ 4 14.77	− 20.8	. . . .	. .	71 0 30.4	− 0.2
	24	η Bootis			. . . .	. .	. .	19 49 58.02	+ 3 52.86	+ 20.8	13 49 . .	. .	71 0 32.9	− 2.3
	25	Lalande 25839		9	58 18.83	− 0.07	− 46.94	352 29 54.68	+ 4 13.01	− 7.5	13 57 31.82	− 3.19	43 40 21.4	− 6.3
	26	B. A. C. 4905[1]		6	46 43.87	0.00	− 46.97	19 13 54.08	+ 3 52.47	+ 20.1	14 45 56.90	− 3.24	70 24 27.9	−10.7
	27	B. A. C. 4905[2]		5	46 44.16	0.00	− 46.97	19 13 54.08	+ 3 52.00	+ 20.1	14 45 57.19	− 3.24	70 24 27.4	−10.7
	28	Lalande 27250		8	51 44.75	− 0.05	− 46.98	358 41 56.50	+ 3 49.63	− 1.2	14 50 57.72	− 3.20	49 52 6.1	− 7.8
	29	Lalande 27265		8	52 2.55	− 0.05	− 46.98	358 41 56.50	+ 4 7.29	− 1.2	14 51 15.52	− 3.20	49 52 23.8	− 7.8
	30	B. A. C. 4982		8	59 21.51	− 0.54	− 46.98	315 49 55.65	+ 4 45.48	− 55.6	14 58 33.99	− 6.49	7 0 6.7	− 3.2
	31	Anonymous	11?	9	5 9.59	+ 0.13	− 46.99	61 46 0.30	+ 4 19.06	+ 1 47.0	15 4 22.73	− 3.88	112 58 27.6	−14.3
	32	B. A. C. 5076		9	19 3.54	− 0.05	− 47.00	358 48 1.22	+ 5 24.15	− 1.1	15 18 16.49	− 3.20	49 59 45.5	− 7.9
	33	Lalande 28358		9	26 58.08	− 0.11	− 47.00	340 58 2.08	+ 5 9.73	− 19.8	15 26 10.97	− 3.33	32 9 13.2	− 6.3
	34	B. A. C. 5177		9	35 17.97	− 0.08	− 47.01	351 38 . .	. .	. .	15 34 30.88	− 3.21	42 49 . .	. .
	35	β[1] Scorpii		9	59 21.97	+ 0.11	**− 47.04**	58 15 59.25	+ 4 59.56	+ 1 33.3	15 58 35.05	. .	109 28 53.3	+ 1.2
	36	δ Ophiuchi		9	8 57.16	+ 0.06	**− 47.06**	42 11 56.95	+ 4 11.52	+ 52.4	16 8 10.19	. .	93 23 22.1	− 0.7
	37	B. A. C. 5437		9	12 52.11	+ 0.06	− 47.04	43 11 55.30	+ 5 3.34	+ 54.3	16 12 5.13	− 3.58	94 24 14.1	− 8.7
	38	B. A. C. 5471		5	18 58.01	+ 0.16	− 47.04	70 11 57.20	+ 4 53.80	+ 2 39.4	16 18 11.13	− 4.28	121 25 51.6	− 7.4
	39	β Herculis		9	25 56.50	− 0.01	**− 46.97**	17 3 56.05	+ 4 34.89	+ 17.8	16 25 9.44	. .	68 15 9.9	+ 1.4
	40	ζ Ophiuchi		9	31 27.10	+ 0.08	**− 47.08**	49 8 2.30	+ 4 7.13	+ 1 6.7	16 30 40.13	. .	100 19 37.3	+ 0.9
	41	B. A. C. 5731 (R)			. . . .	. .	. .	172 8 0.90	+ 4 29.44	− 7.9	. . . .	. .	58 53 58.8	− 7.6
	42	B. A. C. 5731			. . . .	. .	. .	7 43 54.70	+ 3 35.84	+ 7.9	16 56 . .	. .	58 53 59.6	− 7.6
E.	43	Polaris		4	15 39.30	− 5.05	− 47.55	310 10 . .	. .	. .	1 14 46.70	. .	1 20 . .	. .
21	44	ο Virginis			. . . .	. .	. .	29 25 56.60	+ 3 48.66	+ 31.8	11 59 . .	. .	80 36 38.3	+ 1.5
	45	η Virginis		9	14 39.39	+ 0.14	**− 47.60**	38 47 57.72	+ 5 34.56	+ 45.4	12 13 51.94	. .	90 0 38.9	+ 1.4
	46	β Corvi		9	28 58.74	+ 0.24	**− 47.62**	61 31 54.25	+ 4 44.88	+ 1 43.9	12 28 11.39	. .	112 44 44.2	+ 1.7
	47	B. A. C. 4271 (R)			. . . .	. .	. .	151 55 55.88	+ 4 12.39	− 28.6	. . . .	. .	79 6 41.5	−14.5
	48	B. A. C. 4271			. . . .	. .	. .	27 55 54.95	+ 3 58.95	+ 28.6	12 36 . .	. .	79 6 43.7	−14.5
	49	α[2] Can. Ven.		9	51 18.16	− 0.01	**− 47.54**	359 51 54.05	+ 4 12.57	− 0.1	12 50 30.56	. .	51 2 27.7	+ 1.6
	50	θ Virginis		9	4 37.97	+ 0.16	**− 47.67**	43 41 55.95	+ 5 20.71	+ 54.1	13 3 50.54	. .	94 54 32.0	+ 1.7

No.	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*	No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°			′ ″	′ ″	′ ″	′ ″
11	29.78	61.8	59.2						
12	29.97	61.7	61.3	ZENITH-POINT CORR.					
20	29.98	60.4	58.7	″					
35	29.98	56.8	54.8						
42	29.98	56.3	54.7	9, 30, 38, 42. One bisection. 1 to 11 + 45.37					
44	30.05	69.5	68.0	21. Three bisections. 12 to 42 + 42.64					
				10, 13, 25. Four bisections. 44 to 50 + 42.94					

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	m. h. s.	s.	° ′ ″	″
May 21, E.	1	B. A. C. 4458		9	14 45.64	+ 0.34	− 47.59	74 51 53.22	+ 3 46.43	+ 3 26.4	13 13 58.39	− 3.66	126 5 27.2	−24.3
	2	Polaris, S. P.		5	15 30.66	+ 4.26	− 47.59	307 32 . .	. .	. .	1 14 47.33	. .	1 20 . .	. .
	3	ζ Virginis		9	29 28.44	+ 0.12	**− 47.59**	38 47 58.55	+ 4 24.50	+ 45.6	13 28 40.97	. .	89 59 29.8	+ 0.2
	4	Weisse (2) 685		4	35 41.08	0.00	− 47.59	7 11 49.15	+ 5 8.50	+ 7.2	13 34 53.49	− 3.08	58 23 26.0	− 8.9
	5	η Bootis		9	49 51.71	+ 0.05	**− 47.51**	19 49 53.50	+ 3 57.59	+ 20.5	13 49 4.17	. .	71 0 32.8	+ 2.3
24, W.	6	Polaris, S. P.		7	15 32.40	+ 6.46	− 49.75	307 31 53.10	+ 3 28.31	− 1 14.0	1 14 49.11	. .	358 40 28.6	+ 2.5
	7	Weisse (2) 685		9	35 43.37	− 0.05	− 49.76	7 11 52.20	+ 5 4.32	+ 7.3	13 34 53.56	− 3.06	58 23 25.0	− 8.3
	8	η Ursæ Majoris		9	43 44.30	− 0.16	− 49.76	348 55 55.62	+ 3 33.38	− 11.1	13 42 54.38	. .	40 5 39.1	+ 1.9
	9	η Bootis		9	49 54.04	+ 0.01	**− 49.81**	19 49 54.70	+ 3 55.97	+ 20.7	13 49 4.29	. .	71 0 32.6	+ 2.6
	10	B. A. C. 4674		9	57 0.72	+ 0.28	− 49.76	69 53 56.50	+ 4 13.58	+ 2 35.5	13 56 11.24	− 3.81	121 7 6.8	−20.9
	11	B. A. C. 4681		9	59 40.80	+ 0.37	− 49.77	79 21 54.00	+ 3 42.92	+ 4 56.9	13 58 51.40	− 4.14	130 36 55.0	−21.9
	12	α Bootis		9	11 6.96	0.00	**− 49.78**	18 59 54.08	+ 5 29.67	+ 19.8	14 10 17.19	. .	70 12 4.8	+ 2.5
	13	θ Bootis (R)		.	. . . .	. .	. .	193 25 54.25	+ 4 13.46	+ 13.8	. . . .	. .	37 35 59.7	− 0.7
	14	θ Bootis		3	22 2.00	− 0.18	− 49.77	346 25 55.35	+ 4 0.35	− 13.8	14 21 12.05	. .	37 36 3.1	+ 2.7
	15	ρ Bootis		9	27 35.02	− 0.08	**− 49.64**	7 55 56.55	+ 4 4.01	+ 8.1	14 26 45.16	. .	59 6 29.9	+ 1.3
	16	ε Bootis		9	40 40.41	− 0.03	**− 49.74**	11 13 54.25	+ 5 7.11	+ 11.5	14 39 50.60	. .	62 25 34.1	+ 0.9
	17	a^2 Libræ		9	45 11.18	+ 0.18	**− 49.91**	54 19 55.65	+ 5 27.24	+ 1 20.0	14 44 21.58	. .	105 33 4.1	+ 1.9
	18	Lalande 27173[1]		6	51 23.47	+ 0.20	− 49.79	59 39 53.70	+ 4 57.17	+ 1 38.0	14 50 33.88	− 3.81	110 52 50.1	−15.4
	19	Lalande 27173[2]		5	51 24.40	+ 0.20	− 49.79	59 39 53.70	+ 5 2.78	+ 1 38.0	14 50 34.81	− 3.81	110 52 55.7	−15.4
	20	XIV, 30		9	0 25.96	+ 0.32	− 49.79	76 13 54.92	+ 5 10.04	+ 3 51.2	14 59 36.49	− 4.37	127 29 17.4	−16.0
	21	O. Arg. N. 15347		7	20 57.55	− 0.15	− 49.80	353 7 55.85	+ 4 27.42	− 6.8	15 20 7.60	− 3.21	44 18 37.7	− 6.2
	22	XV, 11		9	25 24.73	+ 0.25	− 49.80	66 45 58.12	+ 5 35.74	+ 2 13.5	15 24 35.18	− 4.12	118 0 8.6	−13.0
	23	B. A. C. 5147		9	30 9.49	− 0.33	− 49.80	334 13 54.30	+ 3 46.51	− 27.6	15 29 19.36	− 3.48	25 23 34.4	− 4.6
	24	B. A. C. 5202		9	40 39.61	+ 0.32	− 49.81	76 17 57.70	+ 4 18.55	+ 3 52.4	15 39 50.12	− 4.53	127 32 29.8	−11.8
	25	Lalande 28967, 8		6	49 48.52	+ 0.04	− 49.81	29 51 52.98	+ 5 28.35	+ 33.1	15 48 58.75	− 3.41	81 4 15.6	− 9.1
	26	Lalande 28975		6	49 57.87	+ 0.04	− 49.81	29 51 52.98	+ 5 15.48	+ 33.1	15 49 8.10	− 3.41	81 4 2.8	− 9.1
	27	Weisse 983		8	54 3.83	+ 0.04	− 49.81	29 51 52.98	+ 7 6.81	+ 33.2	15 53 14.06	− 3.41	81 5 54.2	− 9.1
	28	Lalande 29122		9	55 15.30	+ 0.04	− 49.81	29 51 52.98	+ 3 51.83	+ 33.1	15 54 25.53	− 3.41	81 2 39.1	− 8.9
	29	Lalande 29290		9	0 45.46	+ 0.16	− 49.82	52 45 55.80	+ 5 45.40	+ 1 15.8	15 59 55.80	− 3.80	103 59 18.2	− 9.4
	30	B. A. C. 5393		9	7 34.23	+ 0.27	− 49.82	70 8 1.18	+ 4 9.71	+ 2 38.3	16 6 44.68	− 4.32	121 21 10.4	− 8.8
	31	B. A. C. 5435[1]		6	12 53.92	+ 0 26	− 49.82	69 23 56.25	+ 4 1.13	+ 2 32.3	16 12 4.36	− 4.30	120 36 50.9	− 8.3
	32	B. A. C. 5435[2]		5	12 54.99	+ 0.26	− 49.82	69 23 56.25	+ 4 18.37	+ 2 32.3	16 12 5.43	− 4.30	120 37 8.1	− 8.3
	33	B. A. C. 5451		9	16 7.02	+ 0.32	− 49.82	75 54 . .	. .	. .	16 15 17.52	− 4.58	127 9 . .	. .
	34	B. A. C. 5506		9	24 19.54	+ 0.29	− 49.83	72 49 54.40	+ 5 7.27	+ 3 4.8	16 23 30.00	− 4.45	124 4 27.7	− 7.0
	35	Weisse (2) 839		6	29 5.07	− 0.15	− 49.83	352 57 58.30	+ 5 9.17	− 7.0	16 28 15.09	− 3.17	44 9 21.7	− 6.5
	36	Weisse (2) 840		5	29 5.45	− 0.15	− 49.83	352 57 58.30	+ 4 54.13	− 7.0	16 28 15.47	− 3.17	44 9 6.6	− 6.5
	37	Pallas		9	32 36.29	− 0.04	− 49.83	12 47 56.22	+ 4 8.95	+ 13.1	16 31 46.42	. .	63 58 39.5	− 0.9
	38	B. A. C. 5629		9	41 25.86	− 0.23	− 49.83	342 55 12.75	+ 4 19.55	− 17.6	16 40 35.80	− 3.19	34 5 35.9	− 6.2
	39	*d* Herculis		9	58 5.86	− 0.07	**− 49.84**	5 3 53.70	+ 5 19.28	+ 5.2	16 57 15.95	. .	56 15 39.4	+ 1.9
	40	a^1 Herculis		9	10 6.49	+ 0.02	**− 49.89**	24 17 58.88	+ 3 42.71	+ 26.1	17 9 16.67	. .	75 28 28.9	+ 0.7
	41	B. A. C. 5893 (R)		.	. . . .	. .	. .	145 18 0.32	+ 3 37.75	− 39.8	. . . .	. .	85 45 22.9	− 4.4
	42	B. A. C. 5893		.	. . . .	. .	. .	34 33 54.92	+ 4 27.84	+ 39.8	17 21 . .	. .	85 45 23.8	− 4.4
	43	β Draconis (R)		.	. . . .	. .	. .	193 25 56.02	+ 3 29.14	+ 13.8	. . . .	. .	37 36 42.2	− 0.7
	44	β Draconis		3	28 37.84	− 0.20	− 49.85	346 25 55.25	+ 4 43.09	− 13.8	17 27 47.79	. .	37 36 45.7	+ 2.8
	45	Weisse (2) 1591		9	51 43.83	− 0.03	− 49.86	16 21 51.75	+ 2 38.49	+ 17.0	17 50 53.94	− 3.16	67 31 8.4	− 4.7
	46	γ^2 Sagittarii		9	59 3.58	+ 0.25	**− 49.82**	69 11 51.92	+ 4 40.89	+ 2 31.2	17 58 13.97	. .	120 25 25.2	+ 2.1
E.	47	Polaris		9	15 50.33	− 7.75	− 50.20	310 9 54.40	+ 4 26.66	− 1 6.3	1 14 52.38	. .	1 19 36.0	+ 2.0
	48	α Arietis		9	1 19.30	+ 0.19	**− 50.19**	15 55 58.48	+ 3 24.13	+ 16.0	2 0 29.27	. .	67 5 59.8	− 0.3
	49	Venus II, N.		9	11 44.47	+ 0.25	− 50.23	25 57 57.88	+ 5 1.92	+ 27.3	2 10 54.49	− 1.65	77 9 48.3	. .
	50	Moon II		9	16 2.57	+ 0.24	− 50.23	22 0 . .	. .	. .	2 15 12.58	−66.82	75 2 . .	. .

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
5	30.06	67.0	65.5
6	30.21	65.0	63.7
19	30.20	62.2	61.0
39	30.17	59.8	59.0
46	30.16	58.6	57.8
47	30.17	69.5	71.2

For summary of the constants of reduction see page 3.

42. One bisection.
47. Three bisections.
8, 49. Four bisections.
6. Five bisections.

ZENITH-POINT CORR.

″

1 to 5 + 42.94
6 to 46 + 44.06
47 to 50 + 42.20

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
49	− 10.8	+ 24.1	. .	+ 13.3

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
May 24, E.	1	α Ceti		9	56 54.54	+ 0.32	— **50.28**	35 11 54.38	+ 3 43.75	+ 39.3	2 56 4.61	. .	86 22 38.6	+ 2.4
25	2	Sun II		9	12 20.97	+ 0.24	— 50.28	17 46 . .	. .	. .	4 11 30.93	. .	68 56 . .	. .
	3	α Orionis		9	49 34.90	+ 0.31	— **50.38**	31 25 57.90	+ 4 13.02	+ 33.7	5 48 44.88	. .	82 37 5.8	+ 2.3
	4	μ Geminorum		9	16 37.11	+ 0.23	— **50.33**	16 13 50.62	+ 5 13.35	+ 16.1	6 15 47.00	. .	67 25 41.3	+ 1.6
	5	γ Geminorum		9	31 41.57	+ 0.26	— **50.31**	22 17 52.82	+ 5 30.54	+ 22.6	6 30 51.48	. .	73 30 7.2	+ 0.7
	6	21 Cassiopeæ, S. P.		9	38 39.02	+ 0.93	— 50.43	293 11 49.80	+ 4 10.49	— 2 9.4	0 37 49.52	. .	344 20 12.1	+ 1.2
	7	$α^1$ Can. Ven.		9	51 19.66	— 0.05	— 50.42	359 51 49.68	+ 4 29.27	— 0.1	12 50 29.19	— 2.95	51 2 40.1	— 6.0
	8	$α^2$ Can. Ven.		9	51 21.00	— 0.05	— **50.39**	359 51 49.68	+ 4 15.61	— 0.1	12 50 30.53	. .	51 2 26.4	+ 1.0
	9	B. A. C. 4367 (R)		.	. . . .	. .	. .	152 37 53.32	+ 4 40.61	— 29.0	. . . .	. .	78 24 16.3	—13.6
	10	B. A. C. 4367		.	. . . .	. .	. .	27 13 52.50	+ 3 34.31	+ 29.0	12 56 . .	. .	78 24 17.0	—13.6
	11	θ Virginis		9	4 40.64	+ 0.26	— **50.46**	43 41 50.72	+ 5 25.67	+ 53.8	13 3 50.49	. .	94 54 31.4	+ 1.2
	12	Polaris, S. P.		5	15 32.20	+10.88	— 50.41	307 31 50.60	+ 3 28.96	— 1 12.9	1 14 52.67	. .	358 40 27.9	+ 2.0
	13	B. A. C. 4489		9	20 54.72	+ 0.62	— 50.40	79 37 57.28	+ 3 50.08	+ 4 58.9	13 20 4.94	— 3.82	130 53 7.5	—25.1
	14	ζ Virginis		9	29 31.11	+ 0.23	— **50.38**	38 47 56.35	+ 4 26.85	+ 45.4	13 28 40.94	. .	89 59 29.8	+ 0.5
	15	η Ursæ Maj. (R)		.	. . . .	. .	. .	190 55 50.98	+ 4 43.80	+ 11.0	. . . .	. .	40 5 35.4	— 1.6
	16	η Ursæ Majoris		.	. . . .	. .	. .	348 55 53.48	+ 3 35.49	— 11.0	13 43 . .	. .	40 5 39.2	+ 2.2
	17	Weisse 931		6	56 23.99	+ 0.20	— 50.38	36 39 52.42	+ 5 37.20	+ 42.1	13 55 33.81	— 3.25	87 52 32.9	—14.6
	18	B. A. C. 4672		8	56 28.94	+ 0.20	— 50.38	36 39 52.42	+ 6 3.41	+ 42.2	13 55 38.76	— 3.25	87 52 59.2	—14.6
	19	B. A. C. 4905^1	8	6	46 47.23	+ 0.09	— 50.35	19 13 51.82	+ 3 53.70	+ 19.9	14 45 56.97	— 3.24	70 24 26.6	— 9.8
	20	B. A. C. 4905^2	4	5	46 47.54	+ 0.09	— 50.35	19 13 51.82	+ 3 54.32	+ 19.9	14 45 57.28	— 3.24	70 24 27.2	— 9.8
	21	O.Arg.N. 3304, S. P.		9	51 10.44	+ 1.01	— 50.35	293 17 53.15	+ 4 6.03	— 2 10.5	2 50 21.10	— 0.34	344 26 9.9	+ 0.4
	22	Anonymous[2]	10	9	58 16.67	+ 0.39	— 50.34	60 21 51.72	+ 7 18.10	+ 1 39.9	14 57 26.72	— 3.85	111 37 10.9	—14.9
	23	Juno		9	8 2.16	+ 0.22	— 50.34	39 47 59.12	+ 6 29.61	+ 47.5	15 7 12.04	. .	91 1 37.4	— 2.3
	24	Lalande 28029		8	16 36.38	— 0.10	— 50.33	357 23 52.85	+ 5 24.91	— 2.5	15 15 45.95	— 3.20	48 35 36.5	— 6.4
	25	B. A. C. 5082		9	20 35.47	+ 0.54	— 50.33	75 7 57.28	+ 3 18.46	+ 3 31.6	15 19 45.68	— 4.42	126 21 8.5	—14.0
	26	α Cor. Bor.		9	30 32.46	+ 0.02	— **50.23**	11 41 50.00	+ 4 48.88	+ 11.9	15 29 42.16	. .	62 53 12.0	+ 1.5
	27	α Serpentis		9	39 18.09	+ 0.16	— **50.39**	31 59 51.72	+ 5 19.26	+ 35.7	15 38 27.93	. .	83 12 7.9	+ 1.6
	28	ε Serpentis		9	45 46.70	+ 0.18	— **50.33**	33 57 56.98	+ 5 0.75	+ 38.5	15 44 56.57	. .	85 9 57.4	+ 1.1
	29	Lalande 28967, 8		8	49 48.93	+ 0.15	— 50.31	29 51 51.70	+ 5 29.80	+ 32.9	15 48 58.77	— 3.42	81 4 15.6	— 9.0
	30	Lalande 28975		8	49 58.33	+ 0.15	— 50.31	29 51 51.70	+ 5 16.03	+ 32.9	15 49 8.17	— 3.42	81 4 1.8	— 9.0
	31	Weisse 983		9	54 4.24	+ 0.15	— 50.31	29 51 51.70	+ 7 6.74	+ 32.9	15 53 14.08	— 3.42	81 5 52.5	— 8.8
	32	Lalande 29122		9	55 15.73	+ 0.15	— 50.31	29 51 51.70	+ 3 53.40	+ 32.9	15 54 25.57	— 3.42	81 2 39.2	— 8.7
26, R.	33	α Arietis		9	1 20.67	+ 0.10	— **51.42**	15 55 56.22	+ 3 26.72	+ 16.1	2 0 29.24	. .	67 6 0.2	+ 0.2
	34	Venus II, N.		9	12 48.47	+ 0.15	— 51.33	26 15 54.88	+ 4 37.44	+ 27.7	2 11 57.09	— 1.60	77 27 21.2	. .
	35	α Ceti		5	56 56.05	+ 0.21	— **51.65**	35 11 52.30	+ 3 41.06	+ 39.4	2 56 4.72	. .	86 22 34.0	— 1.9
27	36	Sun I, S.		9	18 12.76	+ 0.15	— 51.55	17 39 54.60	+ 5 4.08	+ 17.7	4 17 21.36	+68.06	68 51 37.6	. .
	37	Sun II, N.		9	20 28.89	+ 0.15	— 51.55	17 7 57.00	+ 5 25.18	+ 17.1	4 19 37.49	—68.07	68 20 0.5	. .
	38	Mercury I, C.		9	8 31.26	+ 0.13	— 51.56	14 11 51.08	+ 3 49.39	+ 14.0	5 7 39.83	+ 0.19	65 22 15.7	. .
	39	α Orionis		9	49 36.13	+ 0.22	— **51.52**	31 25 57.15	+ 4 13.48	+ 33.6	5 48 44.78	. .	82 37 5.4	+ 2.1
	40	α Canis Majoris		9	40 46.23	+ 0.35	— **51.63**	55 21 53.88	+ 3 53.84	+ 1 19.2	6 39 55.00	. .	106 33 28.1	+ 1.1
	41	ε Canis Majoris		9	54 48.57	+ 0.45	— **51.58**	67 35 55.58	+ 4 25.69	+ 2 12.1	6 53 57.44	. .	118 48 54.6	+ 0.5
	42	α Geminorum		9	27 53.43	+ 0.12	— **51.57**	6 39 52.82	+ 4 51.99	+ 6.5	7 27 1.96	. .	57 51 12.5	+ 2.7
	43	α Canis Minoris		9	33 56.99	+ 0.24	— **51.61**	33 17 57.12	+ 3 32.50	+ 35.9	7 33 5.64	. .	84 28 26.7	+ 1.2
	44	β Geminorum		9	38 55.02	+ 0.13	— **51.58**	10 29 50.30	+ 5 0.46	+ 10.2	7 38 3.56	. .	61 41 22.2	+ 2.4
	45	B. A. C. 4458		9	14 49.47	+ 0.45	— 51.54	74 51 53.55	+ 3 50.21	+ 3 24.6	13 13 58.38	— 3.62	126 5 29.6	—24.8
	46	Polaris, S. P.		3	15 35.50	+ 7.84	— 51.54	307 31 50.98	+ 3 28.31	— 1 12.6	1 14 51.80	. .	358 40 27.9	+ 2.3
	47	B. A. C. 4470		9	16 33.20	+ 0.16	— 51.55	36 5 56.95	+ 4 29.82	+ 40.7	13 15 41.81	— 3.08	87 17 28.9	—15.6
	48	ζ Virginis		9	29 32.43	+ 0.17	— **51.65**	38 47 55.15	+ 4 29.50	+ 45.2	13 28 41.05	. .	89 59 31.0	+ 1.9
	49	η Ursæ Maj. (R)		.	. . . .	. .	. .	190 55 50.02	+ 4 45.04	+ 10.9	. . . .	. .	40 5 35.2	— 1.3
	50	η Ursæ Majoris		.	. . . .	. .	. .	348 55 54.38	+ 3 32.47	— 10.9	13 43 . .	. .	40 5 37.1	+ 0.6

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
5	30.16	82.0	82.5
6	30.15	73.5	72.2
19	30.19	69.6	66.5
32	30.20	66.0	63.5
34	30.10	70.6	71.9
35	30.10	74.3	75.9
37	30.08	76.0	78.7
38	30.07	77.8	80.2
39	30.05	80.8	82.2
42	30.05	88.7	83.2
47	29.96	70.9	69.2

For summary of the constants of reduction see page 3.

25, 35. One bisection.
6, 12, 46. Three bisections.
27, 34. Four bisections.

ZENITH-POINT CORR.

	″
1 to 5	+ 42.20
6 to 32	+ 43.34
33 to 44	+ 41.98
45 to 50	+ 43.65

35. Barometer and thermometers observed at 3^h 24^m.
42. Barometer and thermometers observed at 7^h 17^m.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
34	— 10.6	+ 23.3	. .	+ 12.7
36	— 2.7	— 15 48.5	. .	— 15 51.2
37	— 2.6	+ 15 48.5	. .	+ 15 45.9
38	— 1.7	. .	— 0.1	— 1.8

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
May 27, R.	1	50 Cassiopeæ, S. P.	.	9	54 9.57	+ 0.56	— 51.57	290 41 53.48	+ 4 53.20	— 2 26.7	1 53 18.56	. .	341 50 41.2	+ 2.8
	2	α Bootis	.	9	11 8.70	+ 0.05	— **51.58**	18 59 49.60	+ 5 33.92	+ 19.4	14 10 17.18	. .	70 12 4.1	+ 2.3
	3	θ Bootis	.	9	22 3.79	— 0.18	— 51.58	346 25 54.45	+ 3 59.43	— 13.5	14 21 12.03	. .	37 36 1.6	+ 2.0
	4	ρ Bootis	.	9	27 36.77	— 0.01	— **51.48**	7 55 53.80	+ 4 6.23	+ 7.9	14 26 45.18	. .	59 6 29.1	+ 1.2
	5	O. Arg. N. 3304, S.P.	8.2	7	51 12.04	+ 0.68	— 51.59	293 17 55.02	+ 4 1.59	— 2 9.3	2 50 21.13	— 0.45	344 26 8.5	— 0.1
	6	Anonymous[2]	9.8	9	58 17.90	+ 0.30	— 51.60	60 21 51.98	+ 7 20.08	+ 1 29.0	14 57 26.61	— 3.86	111 37 12.3	—15.0
	7	Lalande 28029	.	9	16 37.72	— 0.08	— 51.61	357 23 53.20	+ 5 24.71	— 2.5	15 15 46.03	— 3.20	48 35 36.6	— 5.9
	8	XV, 24	7.5	3	50 50.31	+ 0.37	— 51.63	68 25 54.52	+ 4 22.13	+ 2 21.9	15 49 59.05	— 4.26	119 38 59.7	—10.8
	9	Anonymous	10.5	8	52 31.85	+ 0.37	— 51.63	68 25 54.52	+ 4 2.72	+ 2 21.9	15 51 40.59	— 4.27	119 38 40.3	—10.6
	10	Tr. Z. 17, 67	9.5	8	52 45.71	+ 0.37	— 51.63	68 25 54.52	+ 3 37.73	+ 2 21.8	15 51 54.45	— 4.27	119 38 15.2	—10.6
	11	κ[1] Herculis	6.2	6	3 37.27	+ 0.06	— 51.63	21 25 54.58	+ 5 38.00	+ 22.2	16 2 45.70	— 3.34	72 38 16.0	— 7.5
	12	κ[2] Herculis	7.0	5	3 37.72	+ 0.06	— 51.63	21 25 54.58	+ 5 7.58	+ 22.2	16 2 46.15	— 3.34	72 37 45.6	— 7.5
	13	Lal. (F.) 2762	8.3	9	16 37.10	— 0.52	— 51.64	327 35 54.55	+ 4 32.65	— 35.6	16 15 44.94	— 3.66	18 46 12.8	— 4.0
	14	β Herculis	.	9	26 1.20	+ 0.03	— **51.65**	17 3 51.65	+ 4 37.89	+ 17.4	16 25 9.59	. .	68 15 8.1	+ 1.1
	15	Pallas	8.7	3	30 3.20	0.00	— 51.65	12 37 52.55	+ 4 16.55	+ 12.7	16 29 11.55	. .	63 48 43.0	— 0.9
	16	η Herculis	.	9	39 43.91	— 0.08	— **51.66**	359 39 52.55	+ 4 58.24	— 0.2	16 38 52.18	. .	50 51 11.8	+ 3.5
	17	κ Ophiuchi	.	9	52 57.14	+ 0.10	— **51.64**	29 15 53.25	+ 3 40.20	+ 31.7	16 52 5.58	. .	80 26 26.3	+ 0.8
	18	ε Ursæ Minoris	.	9	59 10.84	— 1.42	— 51.66	316 35 54.42	+ 4 52.95	— 53.2	16 58 17.76	. .	7 46 15.4	+ 1.6
	19	α[1] Herculis (R)	.	.	. . . .	. .	. .	155 33 52.60	+ 4 27.79	— 25.6	. . . .	. .	75 28 26.4	— 1.2
	20	α[1] Herculis	.	.	. . . .	. .	. .	24 17 56.58	+ 3 45.17	+ 25.6	17 9 . .	. .	75 28 28.6	+ 1.0
	21	Ceres	7.5	4	13 25.40	+ 0.29	— 51.67	59 59 51.75	+ 4 55.46	+ 1 37.8	17 12 34.02	. .	111 12 46.2	— 4.2
	22	Groom. 966, S. P.	.	9	24 40.74	+ 0.76	— 51.67	293 49 50.90	+ 3 41.82	— 2 6.8	5 23 49.83	. .	344 57 47.1	+ 1.9
	23	Hebe	.	9	45 25.65	+ 0.17	— 51.68	41 31 50.18	+ 4 33.04	+ 50.2	17 44 34.14	. .	92 43 34.6	— 3.6
W.	24	α Arietis	.	9	1 21.78	+ 0.17	— **52.57**	15 55 56.82	+ 3 27.07	+ 15.9	2 0 29.23	. .	67 6 1.0	+ 1.0
	25	Venus II, N.	.	9	13 32.86	+ 0.23	— 52.72	26 23 55.52	+ 3 45.49	+ 27.5	2 12 40.37	— 1.57	77 34 29.7	. .
	26	α Persei	.	9	16 44.04	+ 0.03	— **52.85**	349 23 56.20	+ 3 43.82	— 10.2	3 15 51.37	. .	40 33 51.0	+ 2.1
28	27	Sun I, N.	.	9	22 17.69	+ 0.22	— 52.69	16 59 51.80	+ 3 52.37	+ 16.7	4 21 25.22	+68.10	68 10 22.1	. .
	28	Sun II, S.	.	9	24 33.90	+ 0.22	— 52.69	17 31 48.52	+ 3 30.91	+ 17.2	4 23 41.43	—68.11	68 41 57.8	. .
	29	α Orionis	.	9	49 37.20	+ 0.29	— **52.65**	31 25 58.22	+ 4 13.14	+ 33.2	5 48 44.82	. .	82 37 5.8	+ 2.5
	30	γ Geminorum	.	9	31 43.89	+ 0.26	— **52.63**	22 17 54.85	+ 5 30.52	+ 22.3	6 30 51.49	. .	73 30 8.9	+ 2.4
	31	α Canis Majoris	.	9	40 47.11	+ 0.45	— **52.62**	55 21 54.25	+ 3 54.65	+ 1 18.3	6 39 54.90	. .	106 33 28.4	+ 1.5
	32	ε Canis Majoris	.	9	54 49.62	+ 0.55	— **52.73**	67 35 55.75	+ 4 27.41	+ 2 10.7	6 53 57.51	. .	118 48 55.1	+ 1.2
	33	δ Canis Majoris	.	9	4 25.97	+ 0.52	— **52.72**	64 59 51.55	+ 4 26.14	+ 1 55.7	7 3 33.83	. .	116 12 34.6	+ 1.8
	34	α Canis Minoris	.	9	33 57.91	+ 0.31	— **52.60**	33 17 56.48	+ 3 33.49	+ 35.6	7 33 5.55	. .	84 28 26.8	+ 1.3
	35	ο Virginis	.	9	0 3.98	+ 0.18	— **52.65**	29 25 53.38	+ 3 51.62	+ 31.2	11 59 11.49	. .	80 36 37.4	+ 1.1
	36	4 Draconis	.	8	7 34.33	— 0.88	— 52.67	320 33 53.45	+ 3 50.78	— 45.2	12 6 40.78	. .	11 43 20.2	+ 2.6
	37	γ Corvi	.	9	10 36.41	+ 0.36	— **52.68**	55 41 52.18	+ 3 41.67	+ 1 20.9	12 9 44.10	. .	106 53 15.9	+ 1.0
	38	η Virginis	.	9	14 44.30	+ 0.24	— **52.67**	38 47 55.95	+ 5 35.93	+ 44.5	12 13 51.87	. .	90 0 37.6	+ 0.5
	39	κ Draconis (R)	.	.	. . . .	. .	. .	211 27 54.95	+ 4 34.41	+ 33.9	. . . .	. .	19 33 17.9	— 1.0
	40	κ Draconis	.	8	29 20.81	— 0.47	— 52.67	328 23 52.80	+ 3 40.49	— 33.9	12 28 27.67	. .	19 33 20.6	+ 1.7
	41	21 Cassiopeæ, S. P.	.	9	38 41.72	+ 0.77	— 52.68	293 11 49.95	+ 4 8.75	— 2 7.7	0 37 49.81	. .	344 20 12.2	+ 1.5
	42	θ Virginis	.	9	4 42.86	+ 0.26	— **52.69**	43 41 52.88	+ 5 24.23	+ 53.1	13 3 50.44	. .	94 54 31.4	+ 1.4
	43	B. A. C. 4458	.	9	14 50.54	+ 0.54	— 52.69	74 51 53.38	+ 3 52.26	+ 3 22.6	13 13 58.39	— 3.61	126 5 29.4	—24.9
	44	B. A. C. 4470	.	9	16 34.23	+ 0.21	— 52.69	36 6 . .	. . .	. .	13 15 41.75	— 3.08	87 17 . .	. .
	45	Polaris, S. P.	.	4	15 36.32	+ 9.01	— 52.69	307 31 51.02	+ 3 27.69	— 1 11.9	1 14 52.64	. .	358 40 28.0	+ 2.6
	46	ζ Virginis	.	9	29 33.40	+ 0.23	— **52.69**	38 47 56.78	+ 4 26.76	+ 44.8	13 28 40.94	. .	89 59 29.5	+ 0.4
	47	Lalande 25839	.	9	58 24.54	— 0.09	— 52.70	352 29 48.80	+ 4 15.36	— 7.3	13 57 31.75	— 3.10	43 40 18.1	— 4.4
	48	ρ Bootis (R)	.	.	. . . .	. .	. .	171 55 52.20	+ 4 8.76	— 7.8	. . . .	. .	59 6 28.0	+ 0.3
	49	ρ Bootis	.	.	. . . .	. .	. .	7 55 52.15	+ 4 9.39	+ 7.8	14 27 . .	. .	59 6 30.5	+ 2.8

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
4	29.96	69.3	67.6
15	29.94	67.4	65.7
22	29.94	66.2	64.3
24	29.96	72.7	74.9
28	29.95	79.9	84.2
31	29.94	84.9	86.9
34	29.95	87.8	87.1
35	29.91	77.3	76.4
47	29.94	73.0	71.7

For summary of the constants of reduction see page 3.

10. One bisection.

3, 4, 7, 14, 17, 18, 22, 25, 29, 31, 35, 41, 47. } Four bisections.

ZENITH-POINT CORR.

	″
1 to 23	+ 43.65
24 to 34	+ 42.48
35 to 49	+ 43.67

6. 11th mag. *comes* close preceding.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
25	— 10.5	+ 23.0	. .	+ 12.5
27	— 2.5	+ 15 47.8	. .	+ 15 45.3
28	— 2.6	— 15 47.8	. .	— 15 50.4

Date and Obs'r.	Number.	Object.	Magnitude.	Threads.	Mean Thread.	Corrections. Inst.	Corrections. Clock.	Zenith Dist. South, from Circles.	Corrections. Instrument.	Corrections. Refraction.	Apparent Right Ascension.	Miscellaneous Correction.	Apparent North-Polar Distance	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
May 28, W.	1	ε Bootis		9	40 43.28	+ 0.04	— **52.69**	11 13 51.60	+ 5 10.07	+ 11.2	14 39 50.61	. .	62 25 34.1	+ 1.8
	2	α^2 Libræ		9	45 13.91	+ 0.33	— **52.78**	54 19 53.85	+ 5 30.83	+ 1 17.8	14 44 21.53	. .	105 33 3.7	+ 1.6
	3	Lalande 27173[1]		6	51 26.43	+ 0.37	— 52.71	59 39 53.12	+ 5 0.31	+ 1 35.3	14 50 34.09	— 3.82	110 52 49.9	—15.5
	4	Lalande 27173[2]		5	51 27.36	+ 0.37	— 52.71	59 39 53.12	+ 5 5.53	+ 1 35.3	14 50 35.02	— 3.82	110 52 55.1	—15.5
	5	Weisse 989		8	55 12.53	+ 0.29	— 52.71	49 25 54.20	+ 5 38.46	+ 1 5.3	14 54 20.11	— 3.62	100 38 59.2	—13.8
	6	Anonymous		5	55 25.52	+ 0.29	— 52.71	49 25 54.20	+ 4 34.63	+ 1 5.2	14 54 33.10	— 3.62	100 37 55.2	—13.8
	7	B. A. C. 5077		9	18 56.90	— 0.17	— 52.72	346 3 53.98	+ 3 49.45	— 13.8	15 18 4.01	— 3.24	37 13 50.8	— 4.2
	8	B. A. C. 5092		9	22 12.59	— 0.12	— 52.72	351 19 50.95	+ 5 12.83	— 8.4	15 21 19.75	— 3.21	42 31 16.6	— 4.9
	9	Lalande 28358		9	27 3.98	— 0.24	— 52.72	340 57 56.98	+ 5 11.14	— 19.2	15 26 11.02	— 3.30	32 9 10.1	— 3.8
	10	B. A. C. 5164		9	32 36.77	— 0.14	— 52.72	348 43 51.50	+ 4 26.58	— 11.1	15 31 43.91	— 3.23	39 54 28.2	— 4.7
	11	Lal. (F.) 2683		9	42 10.90	— 0.18	— 52.72	345 27 57.50	+ 4 43.67	— 14.4	15 41 18.00	— 3.25	36 38 48.0	— 4.4
	12	B. A. C. 5248		9	45 41.98	— 0.21	— 52.72	343 3 51.82	+ 5 40.63	— 16.9	15 44 49.05	— 3.27	34 15 36.7	— 4.3
	13	ε Cor. Bor.		9	53 35.59	+ 0.05	— **52.64**	11 35 52.95	+ 4 17.49	+ 11.5	15 52 42.91	. .	62 46 43.1	+ 0.2
	14	β^1 Scorpii		9	59 27.52	+ 0.36	— **52.76**	58 15 54.62	+ 5 5.85	+ 1 30.4	15 58 35.15	. .	109 28 52.1	0.0
30, R.	15	α Arietis		9	1 23.43	+ 0.27	— **54.25**	15 55 52.30	+ 3 32.06	+ 15.7	2 0 29.39	. .	67 6 1.3	+ 1.5
	16	Venus II, N.		9	16 29.56	+ 0.37	— 54.31	26 41 48.80	+ 1 0.03	+ 27.6	2 15 35.62	— 1.49	77 49 37.6	. .
	17	β Ursæ Min., S. P.		7	52 0.42	+ 1.50	— 54.32	293 29 48.98	+ 4 24.63	— 2 4.3	14 51 7.60	. .	344 38 30.5	+ 0.7
	18	α Ceti		9	56 58.57	+ 0.46	— **54.34**	35 11 49.95	+ 3 44.55	+ 38.6	2 56 4.71	. .	86 22 34.3	— 1.0
	19	α Persei		5	16 45.67	— 0.01	— **54.37**	349 23 50.12	+ 3 47.93	— 10.1	3 15 51.33	. .	40 33 49.1	— 0.1
31	20	Sun I, S.		9	34 33.62	+ 0.31	— 54.35	17 3 51.60	+ 4 48.92	+ 16.7	4 33 39.58	+68.24	68 15 18.4	. .
	21	Sun II, N.		9	36 50.10	+ 0.31	— 54.35	16 31 47.95	+ 5 20.46	+ 16.1	4 35 56.06	—68.24	67 43 45.7	. .
	22	Mercury I, C.		8	43 9.03	+ 0.28	— 54.37	13 23 49.18	+ 4 58.90	+ 12.9	5 42 14.94	— 0.21	64 35 22.2	. .
	23	α Orionis		9	49 38.76	+ 0.44	— **54.35**	31 25 53.58	+ 4 16.77	+ 33.0	5 48 44.83	. .	82 37 4.6	+ 1.5
	24	δ Canis Majoris		9	4 27.32	+ 0.80	— **54.37**	64 59 50.15	+ 4 28.57	— 1 54.8	7 3 33.73	. .	116 12 34.7	— 2.5
	25	α^2 Geminorum		9	27 56.09	+ 0.23	— **54.36**	6 39 48.20	+ 4 55.92	+ 6.3	7 27 1.93	. .	57 51 11.6	— 1.6
	26	α Canis Minoris		9	33 59.59	+ 0.47	— **54.46**	33 17 54.62	+ 3 35.75	+ 35.3	7 33 5.67	. .	84 28 26.9	+ 1.6
	27	Moon I, N.		9	37 58.73	+ 0.36	— 54.39	20 25 52.85	+ 4 25.07	+ 20.1	7 37 4.70	+64.49	71 36 59.2	. .
June 8, R.	28	Polaris, S. P.		3	15 52.23	+10.00	— 60.63	307 31 53.35	+ 3 21.95	— 1 11.8	1 15 1.60	. .	358 40 24.7	+ 0.7
	29	η Bootis		9	50 4.62	+ 0.12	— **60.59**	19 49 53.85	+ 3 54.25	+ 20.1	13 49 4.11	. .	71 0 29.4	+ 1.6
	30	B. A. C. 4679		9	59 4.29	+ 0.34	— 60.63	53 11 53.10	+ 4 46.02	+ 1 14.2	13 58 4.00	— 3.42	104 24 14.5	—17.7
	31	B. A. C. 4700		9	5 24.44	+ 0.34	— 60.63	54 31 54.90	+ 5 4.64	+ 1 18.0	14 4 24.15	— 3.48	105 44 38.7	—17.7
	32	Moon I, N.		9	7 53.41	+ 0.36	— 60.63	56 5 54.12	+ 4 38.46	+ 1 22.6	14 6 53.14	+69.03	107 18 16.4	. .
	33	B. A. C. 4739		9	13 7.42	+ 0.36	— 60.63	56 57 57.45	+ 4 24.51	+ 1 25.4	14 12 7.15	— 3.57	108 10 8.6	—17.8
	34	θ Bootis		9	22 12.60	— 0.18	— 60.63	346 25 54.62	+ 3 54.93	— 13.3	14 21 11.79	. .	37 35 57.5	+ 0.8
	35	ρ Bootis		9	27 45.76	+ 0.02	— **60.57**	7 55 54.88	+ 4 1.22	+ 7.8	14 26 45.15	. .	59 6 25.1	— 0.4
	36	B. A. C. 4814		9	29 13.03	+ 0.38	— 60.63	58 41 51.68	+ 5 31.90	+ 1 31.4	14 28 12.78	— 3.69	109 55 16.2	—17.1
	37	ε Bootis		9	40 51.09	+ 0.05	— **60.56**	11 13 53.62	+ 5 4.72	— 11.1	14 39 50.51	. .	62 25 30.6	+ 0.5
	38	α^2 Libræ		9	45 21.88	+ 0.34	— **60.76**	54 19 50.98	+ 5 32.88	+ 1 17.5	14 44 21.59	. .	105 33 2.6	+ 0.7
	39	β Ursæ Min. (R)		.	. . . .	. .	. .	215 39 48.75	+ 4 25.41	+ 40.0	. . . .	. .	15 21 27.0	— 0.9
	40	β Ursæ Min.		.	. . . .	. .	. .	324 11 51.40	+ 3 56.72	— 40.0	14 51 . .	. .	15 21 29.3	+ 1.4
	41	β Bootis		9	58 31.70	— 0.06	— **60.69**	357 57 55.68	+ 4 10.97	— 1.9	14 57 31.01	. .	49 8 25.9	+ 0.9
	42	48 Cephei, S. P.		5	6 16.89	+ 1.10	— 60.63	296 9 51.48	+ 3 20.87	— 1 52.3	3 5 17.36	. .	347 17 41.3	+ 1.4
10, S.	43	α Ceti		9	57 8.56	— 0.01	— **63.63**	35 11 55.78	+ 3 38.31	+ 39.9	2 56 4.92	. .	86 22 35.2	+ 1.6
	44	α Persei		9	16 55.36	— 0.06	— **63.69**	349 23 56.02	+ 3 44.89	— 10.5	3 15 51.66	. .	40 33 51.6	+ 1.2
	45	ζ Persei		9	47 44.36	— 0.03	— **63.59**	7 17 58.75	+ 3 49.39	— 7.3	3 46 40.69	. .	58 28 16.6	+ 1.2
11	46	Sun I, N.		9	20 2.44	— 0.01	— 63.67	15 23 55.30	+ 5 33.33	+ 15.5	5 18 58.76	+68.80	66 36 5.3	. .
	47	Sun II, S.		9	22 20.04	— 0.01	— 63.67	15 55 59.00	+ 5 2.48	+ 16.1	5 21 16.36	—68.80	67 7 38.8	. .
	48	α Canis Majoris		9	40 58.53	+ 0.07	— **63.67**	55 21 55.18	+ 3 51.20	+ 1 20.4	6 39 54.90	. .	106 33 28.0	+ 3.5
	49	δ Canis Majoris		9	4 37.29	+ 0.10	— **63.69**	65 0 . .	. . .	. .	7 3 33.69	. .	116 13 . .	. .
	50	α Canis Minoris		9	34 9.31	+ 0.02	— **63.75**	33 18 0.00	+ 3 30.75	+ 36.4	7 33 5.62	. .	84 28 28.4	+ 3.8

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
14	29.93	70.9	69.6
15	29.90	78.3	79.3
18	29.91	80.5	82.1
19	29.90	82.3	84.6
21	29.90	85.0	87.2
23	29.89	87.9	89.0
24	29.87	89.7	90.1
27	29.87	91.7	89.3
28	29.80	73.7	72.2
33	29.80	72.4	70.8
42	29.80	72.2	70.4
44	30.09	68.2	68.2
47	30.18	72.2	73.8

For summary of the constants of reduction see page 3.

5, 6. One bisection.
27, 28, 32. Three bisections.
15, 23, 24. 25. Four bisections.

ZENITH-POINT CORR.
″
1 to 14 + 43.67
15 to 27 + 42.88
28 to 42 + 42.35
43 to 50 + 42.21

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
16	— 10.1	+ 21.9	. . .	+ 11.8
20	— 2.5	— 15 46.4	. .	— 15 48.9
21	— 2.5	+ 15 46.3	. .	+ 15 43.8
22	— 1.7	. . .	— 0.1	— 1.8
27	—18 46.7	+ 14 46.9	. .	— 3 59.8
32	—48 12.9	+ 15 53.7	. .	— 32 19.2
46	— 2.3	+ 15 46.8	. .	+ 15 44.5
47	— 2.4	— 15 46.7	. .	— 15 49.1

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
June					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
11, S	1	β Geminorum		9	39 7.24	0.00	−63.72	10 29 52.35	+ 4 59.33	+ 10.3	7 38 3.53	. .	61 41 23.2	+ 2.8
W.	2	α¹ Herculis		9	10 21.10	− 0.01	−64.26	24 17 59.85	+ 3 37.44	+ 25.7	17 9 16.91	. .	75 28 24.2	− 0.3
	3	Moon I, N.		9	17 19.11	+ 0.10	− 64.20	62 17 57.35	+ 5 20.77	+ 1 48.0	17 16 15.01	+75.06	113 31 27.3	. .
	4	Moon II, S.		9	19 49.22	+ 0.10	− 64.21	62 51 54.35	+ 4 41.43	+ 1 50.6	17 18 45.11	−75.06	114 4 47.6	. .
	5	μ Herculis		9	42 55.74	− 0.04	−64.22	11 1 55.25	+ 4 4.69	+ 11.2	17 41 51.42	. .	62 12 32.3	− 0.6
	6	γ Draconis (R)		.	. . . .	. .	. .	192 31 55.50	+ 4 25.53	+ 12.7	. . . .	. .	38 29 47.5	− 1.2
	7	γ Draconis		.	. . . .	. .	. .	347 19 53.90	+ 3 48.65	− 12.7	17 54 . .	. .	38 29 51.1	+ 2.4
	8	γ² Sagittarii		7	59 18.54	+ 0.14	−64.30	69 11 54.92	+ 4 37.24	− 2 29.0	17 58 14.36	. .	120 25 22.4	− 1.1
	9	δ Ursæ Minoris		9	11 57.43	− 0.72	− 64.36	312 13 53.95	+ 4 15.79	− 1 2.5	18 10 52.35	. .	3 23 28.4	+ 1.8
	10	1 Aquilæ		9	29 52.02	+ 0.04	−64.31	47 8 2.75	+ 4 5.78	+ 1 1.4	18 28 47.64	. .	98 19 31.1	+ 1.1
	11	α Lyræ		9	34 2.46	− 0.08	−64.54	0 9 53.35	+ 3 22.10	− 0.2	18 32 57.95	. .	51 19 36.8	+ 1.9
	12	51 Cephei, S. P.		3	45 18.07	+ 0.72	− 64.46	306 3 54.68	+ 4 47.42	− 1 17.9	6 44 14.33	. .	357 13 45.4	+ 2.8
	13	ζ Aquilæ (R)		.	. . . .	. .	. .	154 43 55.38	+ 4 11.53	− 26.8	. . . .	. .	76 18 41.1	− 0.3
	14	ζ Aquilæ		.	. . . .	. .	. .	25 8 0.80	+ 3 53.24	+ 26.8	19 0 . .	. .	76 18 42.0	+ 0.6
12, R.	15	ζ Ophiuchi		9	31 45.06	+ 0.16	−64.88	49 7 57.70	+ 4 11.06	+ 1 5.4	16 30 40.35	. .	100 19 35.4	+ 0.3
	16	η Herculis		9	39 57.20	− 0.12	−64.83	359 39 52.20	+ 4 51.62	− 0.3	16 38 52.21	. .	50 51 4.7	+ 1.1
	17	κ Ophiuchi (R)		.	. . . .	. .	. .	150 35 54.38	+ 4 35.60	− 31.8	. . . .	. .	80 26 23.0	− 0.3
	18	κ Ophiuchi		.	. . . .	. .	. .	29 15 54.38	+ 3 36.25	+ 31.8	16 52 . .	. .	80 26 23.6	+ 0.9
	19	Ceres		.	. . . .	. .	. .	60 35 57.50	+ 4 41.94	+ 1 40.3	16 58 . .	. .	111 48 40.9	− 4.3
	20	δ Ophiuchi		7	20 15.23	+ 0.26	−64.92	62 51 54.72	+ 3 47.69	+ 1 50.3	17 19 10.61	. .	114 3 53.9	+ 0.7
	21	Groom. 966, S. P.		9	24 54.17	+ 0.62	− 64.89	293 49 54.70	+ 3 34.35	− 2 7.1	5 23 49.90	. .	344 57 43.1	+ 2.2
	22	Hebe		9	30 58.77	+ 0.12	− 64.89	41 31 53.12	+ 5 45.47	+ 50.3	17 29 54.00	. .	92 44 50.1	− 3.8
	23	ψ¹ Draconis		9	45 12.73	− 0.59	− 64.89	326 37 59.10	+ 3 52.94	− 37.2	17 44 7.25	. .	17 47 36.0	0.0
	24	Massalia	10	9	2 36.67	+ 0.23	− 64.89	61 17 57.95	+ 4 10.43	+ 1 43.5	18 1 32.01	. .	112 30 13.1	− 4.5
	25	14 Sagittarii		9	8 15.98	+ 0.23	− 64.89	60 31 52.30	+ 4 38.43	+ 1 40.4	18 7 11.32	− 4.26	111 44 32.3	+ 3.0
	26	Eunomia	9	8	16 34.54	+ 0.30	− 64.90	69 47 58.62	+ 3 51.43	+ 2 33.6	18 15 29.94	. .	121 0 44.8	− 4.6
	27	Moon II, N.		9	27 6.64	+ 0.23	− 64.90	61 7 58.80	+ 4 26.20	+ 1 43.0	18 26 1.97	−74.81	112 20 29.2	. .
	28	B. A. C. 6336		9	31 55.82	+ 0.22	− 64.90	60 17 57.00	+ 3 37.01	+ 1 39.5	18 30 51.14	− 4.21	111 29 34.7	+ 5.3
	29	O. Arg. S. 18577		5	37 3.32	+ 0.21	− 64 90	58 11 54.00	+ 3 55.14	+ 1 31.6	18 35 58.63	− 4.14	109 23 41.9	+ 5.6
	30	51 Cephei, S. P.		4	45 12.75	+ 3.82	− 64.90	306 3 56.32	+ 4 44.38	− 1 17.7	6 44 11.67	. .	357 13 44.2	+ 1.8
	31	ζ Aquilæ		9	1 4.73	+ 0.02	−64.84	25 7 58.80	+ 3 56.01	+ 26.8	18 59 59.84	. .	76 18 42.8	+ 1.6
	32	d Sagittarii		9	11 49.07	+ 0.21	−64.93	57 58 0.18	+ 3 46.21	+ 1 30.9	19 10 44.37	. .	109 9 38.5	− 0.5
	33	τ Draconis		3	18 59.21	− 0.64	− 64.91	325 41 53.98	+ 4 23.30	− 38.7	19 17 53.66	. .	16 51 59.8	+ 1.0
	34	κ Aquilæ		9	31 37.88	+ 0.13	−64.96	46 6 . .	. .	. .	19 30 33.10	. .	97 17 . .	. .
13, W.	35	Polaris, S. P.		5	16 4.16	+ 8.28	− 65.72	307 31 53.50	+ 3 23.81	− 1 12.8	1 15 6.72	. .	358 40 25.7	+ 2.1
	36	η Bootis		9	50 9.94	+ 0.08	−65.91	19 49 54.50	+ 3 51.78	+ 20.4	13 49 4.30	. .	71 0 27.9	+ 0.8
	37	α Draconis (R)		.	. . . .	. .	. .	205 57 58.90	+ 4 39.69	− 27.5	. . . .	. .	25 3 15.1	− 1.3
	38	α Draconis		6	2 19.50	− 0.33	− 65.72	333 53 56.10	+ 3 28.68	− 27.5	14 1 13.45	. .	25 3 18.5	+ 2.1
	39	α Bootis		9	11 23.03	+ 0.08	−66.04	18 59 53.68	+ 5 25.47	+ 19.5	14 10 17.39	. .	70 11 59.9	+ 0.6
	40	ρ Bootis		9	27 51.04	+ 0.01	−65.88	7 55 57.32	+ 3 58.40	+ 7.9	14 26 45.33	. .	59 6 24.8	+ 0.2
	41	Lalande 27250		.	. . . .	. .	. .	358 41 53.90	+ 3 45.90	− 1.2	14 51 . .	. .	49 51 59.8	− 2.0
	42	Lalande 27265		.	. . . .	. .	. .	358 41 53.90	+ 4 3.30	− 1.2	14 51 . .	. .	49 52 17.2	− 2.0
	43	O. Arg. N. 15347		.	. . . .	. .	. .	353 7 56.00	+ 4 20.53	− 6.7	15 20 . .	. .	44 18 31.0	− 0.8
	44	α Cor. Bor.		7	30 48.24	+ 0.04	−66.03	11 41 53.30	+ 4 40.73	+ 11.8	15 29 42.56	. .	62 53 7.0	+ 0.8
15, R.	45	Venus II, N.		9	47 53.63	+ 0.32	− 68.49	25 51 50.98	+ 3 51.87	+ 27.4	2 46 45.46	− 1.17	77 2 31.4	. .
	46	α Ceti		9	57 13.21	+ 0.39	−68.56	35 11 54.68	+ 3 36.71	+ 39.8	2 56 5.10	. .	86 22 32.4	− 0.4
	47	α Persei		9	17 0.29	− 0.03	− 68.52	349 23 56.20	+ 3 43.14	− 10.5	3 15 51.74	. .	40 33 50.0	− 0.8
	48	ζ Persei		2	47 49.19	+ 0.17	−68.50	7 18 . .	. .	. .	3 46 40.80	. .	58 28 . .	. .
	49	α Tauri		9	30 15.23	+ 0.31	−68.57	22 31 56.38	+ 5 11.02	+ 23.3	4 29 6.93	. .	73 43 51.9	+ 0.5
	50	α Aurigæ		9	9 4.24	+ 0.03	−68.69	352 58 1.48	+ 3 16.36	− 6.8	5 7 55.62	. .	44 7 32.2	+ 0.6

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.05	77.5	78.2
2	30.12	67.3	65.6
14	30.11	64.7	62.2
15	30.11	69.3	67.2
20	30.11	68.3	66.2
23	30.10	67.8	65.3
30	30.11	65.7	63.8
34	30.10	65.4	63.6
35	30.01	70.5	68.7
42	30.03	68.8	66.8
46	30.22	70.8	70.7
49	30.20	74.7	75.1
50	30.19	75.6	76.3

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

			″
32.	One bisection.	1	− 42.21
16, 29, 30, 36, 40, 44, 45, 46, 47.	Four bisections.	2 to 14	− 42.18
		15 to 33	− 42.47
9, 27.	Five bisections.	35 to 44	− 43.11
		45 to 50	− 41.64

3, 4. The semi-diameters applied in both coordinates are those given by the observations.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
3	−53 29.0	+ 16 32.0	. .	− 36 57.0
4	−53 45.4	− 16 32.0	. .	− 70 17.4
27	−53 9.1	+ 16 36.2	. .	− 36 32.9
45	− 7.6	+ 17.0	. .	− 9.4

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
June					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
16, R.	1	Sun I, S.		9	40 52.39	+ 0.26	— 68.69	15 41 54.00	+ 4 26.77	+ 15.7	5 39 43.96	+68.89	66 52 57.7	. .
	2	Sun II, N.		9	43 10.18	+ 0.26	— 68.69	15 9 52.15	+ 4 57.57	+ 15.1	5 42 1.75	—68.90	66 21 26.0	. .
	3	α Orionis		8	49 53.28	+ 0.39	**—68.70**	31 25 59.40	+ 4 4.93	+ 34.0	5 48 44.97	. .	82 36 59.5	— 2.3
17, E.	4	Venus N.			. . . .	. .	. .	25 35 55.05	+ 2 55.17	+ 26.5	2 52 . .	. .	76 45 37.9	. .
	5	α Ceti		9	57 15.46	+ 0.40	**— 70.77**	35 11 52.65	+ 3 39.28	+ 39.0	2 56 5.08	. .	86 22 32.1	— 0.4
	6	η Tauri		9	41 36.87	+ 0.23	**— 70.77**	15 3 48.90	+ 5 24.67	+ 14.9	3 40 26.32	. .	66 15 49.7	+ 1.2
	7	ζ Persei		9	47 51.44	+ 0.15	**— 70.68**	7 17 54.00	+ 3 53.32	+ 7.1	3 46 40.81	. .	58 28 15.6	+ 0.1
	8	γ^1 Eridani		9	53 40.01	+ 0.58	**— 70.91**	52 39 52.00	+ 3 20.12	+ 1 12.1	3 52 29.81	. .	103 50 45.4	+ 0.7
18	9	Sun I, S.		9	49 13.57	+ 0.25	— 70.79	15 39 51.85	+ 3 31.40	+ 15.4	5 48 3.03	+68.91	66 49 59.8	. .
	10	Sun II, N.		9	51 31.40	+ 0.25	— 70.79	15 7 53.60	+ 3 59.11	+ 14.8	5 50 20.86	—68.92	66 18 28.7	. .
	11	α^2 Geminorum		9	28 12.56	+ 0.16	**— 70.77**	6 39 51.52	+ 4 54.18	+ 6.4	7 27 1.92	. .	57 51 13.3	+ 2.1
	12	α Canis Minoris		9	34 15.99	+ 0.42	**— 70.83**	33 17 57.65	+ 3 30.71	+ 35.7	7 33 5.61	. .	84 28 25.3	+ 1.2
	13	Mercury I, C.		9	39 23.53	+ 0.26	— 70.80	16 21 49.75	+ 3 44.66	+ 16.0	7 38 12.99	+ 0.28	67 32 11.6	. .
	14	α^2 Libræ		7	45 31.91	+ 0.57	**— 71.05**	54 20 . .	. .	. .	14 44 21.37	. .	105 33 . .	. .
	15	O. Arg. N. 3339, S. P.		9	53 39.72	+ 1.30	— 71.11	289 3 50.75	+ 3 30.76	— 2 38.4	2 52 29.91	— 1.97	340 11 4.3	+ 3.6
	16	β Bootis		9	58 41.97	— 0.01	**— 71.11**	357 57 53.30	+ 4 11.54	— 1.9	14 57 30.84	. .	49 8 24.1	+ 1.3
	17	48 Cephei, S. P.		9	6 28.01	+ 1.96	— 71.12	296 9 49.10	+ 3 23.41	— 1 52.1	3 5 18.85	. .	347 17 41.6	+ 3.6
	18	β Libræ		9	11 50.60	+ 0.50	**— 71.19**	47 43 52.65	+ 5 33.04	+ 1 1.2	15 10 39.97	. .	98 56 48.1	+ 2.4
	19	B. A. C. 5082		9	20 55.90	+ 0.85	— 71.13	75 7 56.72	+ 3 28.07	+ 3 26.2	15 19 45.62	— 4.47	126 21 12.2	—16.2
	20	Weisse (2) 463		9	23 46.01	+ 0.16	— 71.13	13 19 49.50	+ 2 41.93	+ 13.2	15 22 35.04	— 3.22	64 29 5.8	— 3.2
	21	B. A. C. 5118		9	28 27.86	+ 0.94	— 71.14	79 29 51.05	+ 5 8.08	+ 4 51.4	15 27 17.66	— 4.72	130 46 11.7	—16.1
	22	O. Arg. S. 14736	9	9	33 48.74	+ 0.66	— 71.14	62 13 51.25	+ 2 57.58	+ 1 45.1	15 32 38.26	— 4.09	113 24 55.1	—12.6
	23	42 Libræ		9	34 29.53	+ 0.66	— 71.14	62 13 51.25	+ 4 3.51	+ 1 45.2	15 33 19.05	— 4.09	113 26 1.2	—12.5
	24	Anonymous	10.5	9	41 47.19	+ 0.52	— 71.15	49 45 52.95	+ 4 55.91	+ 1 5.6	15 40 36.56	— 3.81	100 58 15.7	— 9.6
	25	Lal. (F.) 606, S. P.		9	47 10.82	+ 1.79	— 71.15	294 41 48.38	+ 3 37.56	— 1 59.5	3 46 1.46	— 1.61	345 49 47.6	+ 3.6
	26	B. A. C. 5310		9	55 48.40	+ 0.04	— 71.16	1 49 48.70	+ 4 54.67	+ 1.8	15 54 37.28	— 3.20	53 1 6.4	— 0.4
	27	Lalande 29290		9	1 6.70	+ 0.55	— 71.16	52 45 54.65	+ 5 46.72	+ 1 13.0	15 59 56.09	— 3.95	103 59 15.6	— 8.5
	28	B. A. C. 5393		9	7 55.47	+ 0.76	— 71.17	70 7 56.85	+ 4 23.95	+ 2 32.5	16 6 45.06	— 4.51	121 21 14.5	—10.4
	29	Ceres		9	52 49.00	+ 0.64	— 71.20	60 47 56.18	+ 5 29.61	+ 1 39.3	16 51 38.44	. .	112 1 26.3	— 4.2
	30	Weisse (2) 1688		9	57 11.22	+ 0.18	— 71.20	15 59 49.18	+ 5 5.45	+ 16.0	16 56 0.20	— 3.44	67 11 31.8	— 0.4
	31	B. A. C. 5781		9	4 48.09	+ 0.56	— 71.21	54 23 51.88	+ 3 8.31	+ 1 17.6	17 3 37.44	— 4.14	105 34 39.0	— 3.0
	32	Anonymous	10.0	9	7 39.89	+ 0.65	— 71.21	62 9 49.92	+ 3 34.98	+ 1 45.1	17 6 29.33	— 4.38	113 21 31.2	— 3.2
	33	Anonymous	11.0	9	13 10.56	+ 0.65	— 71.22	62 9 49.92	+ 6 41.47	+ 1 45.3	17 11 59.99	— 4.39	113 24 37.9	— 2.6
	34	XVII, 4		9	17 29.80	+ 0.81	— 71.22	73 23 51.52	+ 7 25.03	+ 3 5.4	17 16 19.39	— 4.85	124 40 43.2	— 2.7
	35	Lacaille 7268		9	18 24.00	+ 0.81	— 71.22	73 23 51.52	+ 1 47.20	+ 3 4.3	17 17 13.59	— 4.84	124 35 4.2	— 2.6
	36	Anonymous		9	24 43.87	+ 0.43	— 71.23	41 43 51.85	+ 8 19.98	+ 49.8	17 23 33.07	— 3.87	92 59 22.8	— 0.5
	37	B. A. C. 6017		9	42 52.49	+ 0.75	— 71.24	69 19 50.92	+ 4 36.95	+ 2 26.9	17 41 42.00	— 4.68	120 33 16.0	+ 0.4
	38	B. A. C. 6026^1		3	44 48.17	+ 0.75	— 71.24	69 19 50.92	+ 3 46.48	+ 2 26.7	17 43 37.68	— 4.68	120 31 25.3	+ 0.6
	39	B. A. C. 6026^2		5	44 48.19	+ 0.75	— 71.24	69 19 50.92	+ 2 37.36	+ 2 26.7	17 43 37.70	— 4.68	120 31 16.2	+ 0.6
	40	Massalia		9	56 30.68	+ 0.64	— 71.25	61 13 50.78	+ 7 15.33	+ 1 41.6	17 55 20.07	. .	112 29 8.9	— 4.5
	41	Parthenope		9	4 8.70	+ 0.59	— 71.25	57 21 49.15	+ 5 27.63	+ 1 27.1	18 2 58.04	. .	108 35 5.1	— 5.9
	42	δ Ursæ Minoris		5	12 8.52	— 6.54	— 71.26	312 14 . .	. .	. .	18 10 50.72	. .	3 23 . .	. .
	43	η Serpentis		8	16 23.86	+ 0.43	**— 71.28**	41 43 52.35	+ 4 38.03	+ 49.8	18 15 13.03	. .	92 55 41.4	+ 2.7
	44	Anonymous		9	21 35.73	+ 0.76	— 71.27	70 23 51.90	+ 5 20.41	+ 2 35.8	18 20 25.22	— 4.70	121 38 9.3	+ 4.9
	45	1 Aquilæ		9	29 58.68	+ 0.48	**— 71.30**	47 7 55.65	+ 4 12.58	+ 1 0.2	18 28 47.89	. .	98 19 29.6	+ 0.4
	46	α Lyræ		9	34 9.17	0.00	**— 71.23**	0 9 48.48	+ 3 24.97	+ 0.2	18 32 57.90	. .	51 19 34.8	+ 2.1
	47	B. A. C. 6378		9	40 40.92	+ 0.92	— 71.28	79 15 53.00	+ 4 42.95	+ 4 46.9	18 39 30.56	— 5.10	130 31 44.1	+ 7.6
	48	51 Cephei, S. P.		5	45 15.08	+ 8.60	**— 71.28**	306 3 50.72	+ 4 48.80	— 1 16.3	6 44 12.40	. .	357 13 44.4	+ 3.8
19, S.	49	θ Piscium			. . . .	. .	. .	33 5 53.65	+ 3 23.30	+ 36.6	23 22 . .	. .	84 16 14.8	+ 0.3
	50	ι Piscium			. . . .	. .	. .	33 49 51.72	+ 4 2.35	+ 37.6	23 34 . .	. .	85 0 52.9	+ 0.2

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	30.19	76.2	77.7
5	29.94	75.5	76.0
10	29.94	81.1	82.0
13	29.93	84.8	85.5
16	29.90	75.5	73.0
28	29.87	73.5	73.0
48	29.85	70.5	68.9
49	29.89	70.8	68.2

For summary of the constants of reduction see page 3.

		ZENITH-POINT CORR.
		″
17, 38, 39.	One bisection.	1 to 3 + 41.64
25.	Three bisections.	4 to 13 + 42.64
13.	Four bisections.	15 to 48 + 43.40
		49 to 50 + 42.40

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	″	′ ″	′ ″	′ ″
1	— 2.4	— 15 45.8	. .	— 15 48.2
2	— 2.3	+ 15 45.9	. .	+ 15 43.6
4	— 7.3	+ 16.5	. .	+ 9.2
9	— 2.3	— 15 45.5	. .	— 15 47.8
10	— 2.3	+ 15 45.6	. .	+ 15 43.3
13	— 2.9	. .	+ 0.2	— 2.7

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
June					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
19, S.	1	α Andromedæ			. . .	. .	. .	10 23 51.90	+ 3 30.36	+ 10.3	0 2 . .	. .	61 33 53.8	+ 0.1
	2	γ Pegasi			. . .	. .	. .	24 17 55.10	+ 3 48.48	+ 25.2	0 7 . .	. .	75 28 30.0	− 0.4
	3	β Ceti			. . .	. .	. .	57 25 56.45	+ 4 16.87	+ 1 27.1	0 38 . .	. .	108 38 1.6	− 0.9
R.	4	Venus II, N.		9	58 57.89	+ 0.35	− 72.68	25 15 55.40	+ 4 25.73	+ 26.1	2 57 45.56	− 1.10	76 27 8.4	. .
	5	η Tauri		8	41 38.87	+ 0.26	**− 72.75**	15 3 49.45	+ 5 25.25	+ 14.9	3 40 26.43	. .	66 15 50.8	+ 2.4
	6	ζ Persei		9	47 53.48	+ 0.18	**− 72.70**	7 17 56.30	+ 3 50.75	+ 7.1	3 46 40.95	. .	58 28 15.3	− 0.2
	7	γ¹ Eridani		9	53 41.81	+ 0.62	**− 72.71**	52 39 52.30	+ 3 17.71	+ 1 11.8	3 52 29.72	. .	103 50 43.0	− 1.3
	8	α Tauri		9	30 19.42	+ 0.34	**− 72.71**	22 31 52.72	+ 5 16.30	+ 22.7	4 29 7.02	. .	73 43 52.9	+ 1.7
	9	ι Aurigæ		4	50 28.90	+ 0.18	**− 72.74**	5 50 . .	. . .	. .	4 49 16.33	. .	57 2 . .	. .
	10	α Aurigæ		9	9 8.53	+ 0.02	− 72.76	352 57 56.52	+ 3 22.26	− 6.7	5 8 55.79	. .	44 7 33.3	+ 1.3
20	11	Sun I, S.		9	57 34.83	+ 0.29	− 72.80	15 37 53.45	+ 4 10.60	+ 15.2	5 56 22.32	+68.83	66 48 40.4	. .
	12	Sun II, N.		9	59 52.49	+ 0.29	− 72.80	15 5 53.40	+ 4 39.24	+ 14.7	5 58 39.98	−68.83	66 17 8.5	. .
	13	δ Canis Majoris		8	4 45.74	+ 0.80	**− 72.84**	64 59 52.08	+ 4 19.75	+ 1 55.3	7 3 33.70	. .	116 12 28.3	+ 0.2
	14	α Canis Minoris		9	34 17.99	+ 0.46	**− 72.87**	33 17 58.20	+ 3 29.32	+ 35.4	7 33 5.59	. .	84 28 24.1	+ 0.1
	15	Mercury I, C.		6	47 30.85	+ 0.31	− 72.87	17 1 53.10	+ 4 32.09	+ 16.6	7 46 18.29	+ 0.29	68 13 3.0	. .
W.	16	δ Persei		9	34 43.86	− 0.09	− 14.22	351 25 54.85	+ 3 33.58	− 8.3	3 34 29.55	. .	42 35 41.3	− 0.4
	17	η Tauri		8	40 40.39	+ 0.19	**− 14.17**	15 3 49.70	+ 5 22.08	+ 15.0	3 40 26.36	. .	66 15 48.0	− 0.3
	18	ζ Persei		8	46 55.07	+ 0.11	**− 14.19**	7 17 54.90	+ 3 52.93	+ 7.1	3 46 40.96	. .	58 28 16.1	+ 0.6
	19	α Tauri			. . .	. .	. .	22 31 51.75	+ 5 16.72	+ 23.0	4 29 . .	. .	73 43 52.7	+ 1.6
	20	ι Aurigæ		9	49 30.57	+ 0.10	**− 14.31**	5 49 52.08	+ 5 10.31	+ 5.7	4 49 16.44	. .	57 1 29.3	+ 2.3
	21	α Aurigæ		9	8 10.16	− 0.06	− 14.24	352 57 57.45	+ 3 21.91	− 6.7	5 7 55.86	. .	44 7 33.9	+ 1.7
21	22	Sun I, N.		9	0 46.12	+ 0.21	− 14.25	15 3 50.45	+ 6 40.68	+ 14.9	6 0 32.08	+68.86	66 17 7.2	. .
	23	Sun II, S.		9	3 3.84	+ 0.21	− 14.25	15 35 55.92	+ 6 3.61	− 15.5	6 2 49.80	−68.86	66 48 36.2	. .
	24	ε Canis Majoris		9	54 10.91	+ 0.74	**− 14.26**	67 35 57.28	+ 4 16.87	+ 2 12.9	6 53 57.38	. .	118 48 48.3	− 0.3
	25	δ Geminorum		9	13 16.52	+ 0.22	**− 14.33**	16 37 55.42	− 3 32.95	+ 16.5	7 13 2.47	. .	67 48 6.1	+ 1.0
	26	α² Geminorum		6	27 16.09	+ 0.13	**− 14.26**	6 39 50.60	+ 4 53.37	+ 6.5	7 27 1.94	. .	57 51 11.7	+ 0.3
	27	α Canis Minoris		9	33 19.46	+ 0.38	**− 14.25**	33 17 57.18	+ 3 31.23	+ 36.2	7 33 5.56	. .	84 28 25.8	+ 1.9
	28	β Geminorum		9	38 17.64	+ 0.17	**− 14.28**	10 29 50.52	+ 5 0.38	+ 10.0	7 38 3.53	. .	61 41 22.1	+ 1.1
	29	Mercury I, N.		8	50 11.05	+ 0.23	− 14.28	17 23 53.20	+ 3 22.47	+ 17.3	7 49 57.00	+ 0.30	68 33 54.2	. .
	30	Mercury S.			. . .	. .	. .	17 23 53.20	+ 3 29.59	+ 17.3	7 50 . .	. .	68 34 1.3	. .
	31	Polaris, S. P.		4	15 11.52	+16.53	− 14.52	307 31 51.15	− 3 23.79	− 1 11.9	1 15 13.53	. .	358 40 24.2	+ 1.0
	32	ζ Virginis		9	28 54.90	+ 0.39	**− 14.50**	38 48 5.55	+ 4 16.77	+ 44.7	13 28 40.77	. .	89 59 28.2	+ 1.0
	33	B. A. C. 4643		8	46 7.77	− 3.01	− 14.52	315 30 . .	. . .	. .	13 45 50.24	− 2.22	6 39 . .	. .
	34	B. A. C. 4672		9	55 52.76	+ 0.37	− 14.52	36 41 53.20	+ 4 0.49	+ 41.5	13 55 38.61	− 3.11	87 52 56.4	−12.3
	35	α Bootis		9	10 31.44	+ 0.20	**− 14.64**	18 59 49.82	+ 5 28.34	+ 19.3	14 10 17.12	. .	70 11 58.7	+ 0.5
	36	θ Bootis (R)			. . .	. .	. .	193 25 54.28	+ 4 19.62	+ 13.4	. . . .	. .	37 35 53.9	− 0.3
	37	θ Bootis		4	21 26.37	− 0.21	− 14.52	346 25 53.12	+ 3 55.00	− 13.4	14 21 11.64	. .	37 35 55.9	+ 1.7
	38	ρ Bootis		9	26 59.43	+ 0.09	**− 14.42**	7 55 55.72	+ 3 57.78	+ 7.8	14 26 45.00	. .	59 6 22.5	− 0.7
	39	ε Bootis		9	40 4.86	+ 0.13	**− 14.50**	11 13 54.05	+ 5 1.53	+ 11.2	14 39 50.47	. .	62 25 28.0	+ 0.2
	40	Anonymous		9	49 3.99	+ 0.65	− 14.52	63 33 53.02	+ 5 24.63	+ 1 52.3	14 48 50.12	− 3.88	114 47 31.1	−16.7
	41	Weisse 989		9	54 34.32	+ 0.49	− 14.52	49 25 59.42	+ 5 33.30	+ 1 5.4	14 54 20.29	− 3.60	100 38 59.3	−12.7
	42	B. A. C. 5082		9	19 59.51	+ 0.80	− 14.52	75 7 57.65	+ 3 24.04	+ 3 28.0	15 19 45.79	− 4.46	126 21 10.9	−16.4
	43	Weisse (2) 463		9	22 49.48	+ 0.14	− 14.52	13 17 54.05	+ 4 34.59	+ 13.3	15 22 35.10	− 3.20	64 29 3.1	− 2.6
22, E.	44	α Bootis		5	10 32.15	+ 0.12	**− 15.28**	18 59 51.60	+ 5 27.15	+ 19.5	14 10 16.93	. .	70 11 59.5	+ 1.4
	45	XIV, 25		9	49 54.27	+ 0.33	− 15.35	60 21 53.08	+ 0 34.67	+ 1 38.9	14 49 39.25	− 3.80	111 30 27.9	−15.8
	46	Anonymous		4	54 32.35	+ 0.26	− 15.35	49 25 54.48	+ 4 25.66	+ 1 6.1	14 54 17.26	− 3.59	100 37 47.4	−12.7
	47	β Bootis		9	57 46.19	− 0.01	**− 15.38**	357 57 56.75	+ 4 7.06	− 1.9	14 57 30.82	. .	49 8 23.1	+ 1.1
	48	β Libræ		9	10 55.00	+ 0.26	**− 15.36**	47 43 52.58	+ 5 30.64	+ 1 2.3	15 10 39.90	. .	98 56 46.7	+ 1.2
	49	μ¹ Bootis		8	20 18.17	+ 0.01	**− 15.40**	1 1 52.00	+ 4 4.67	+ 1.1	15 20 2.81	. .	52 12 19.0	+ 1.7
	50	Weisse (2) 463		9	22 50.37	+ 0.08	− 15.37	13 19 52.42	+ 2 37.30	+ 13.4	15 22 35.08	− 3.19	64 29 4.3	− 2.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
3	29.92	72.8	72.2
4	29.92	77.4	77.2
5	29.91	79.4	79.2
8	29.91	81.7	81.9
10	29.91	83.3	84.2
12	29.88	84.9	86.6
14	29.82	87.4	87.3
16	29.83	74.9	73.7
23	29.83	77.2	76.1
24	29.84	77.4	76.4
30	29.84	79.8	77.2
32	29.86	72.9	72.1
43	29.89	68.5	66.9
44	29.94	69.0	66.2

For summary of the constants of reduction see page 3.

		ZENITH-POINT CORR.
		″
19, 44.	One bisection.	1 to 3 + 42.40
15.	Three bisections.	4 to 15 + 42.98
4, 21, 24, 28, 39, 41.	Four bisections.	16 to 30 + 42.56
		31 to 43 + 43.19
		44 to 50 + 43.52

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
4	− 7.0	+ 16.0	. .	+ 9.0
11	− 2.3	− 15 45.9	. .	− 15 48.2
12	− 2.3	+ 15 46.0	. .	+ 15 43.7
15	− 3.2	. .	+ 0.3	− 2.9
22	− 2.3	+ 15 44.5	. .	+ 15 42.2
23	− 2.3	− 15 44.5	. .	− 15 46.8
29	− 3.3	+ 3.6	. .	+ 0.3
30	− 3.3	− 3.6	+ 0.1	− 6.8

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
June 22, E.	1	XV, 12		9	26 21.04	+ 0.37	− 15.37	64 11 51.90	+ 3 47.11	+ 1 56.8	15 26 6.04	− 4.10	115 23 57.0	−13.6
	2	O. Arg. S. 14736		9	32 53.26	+ 0.35	− 15.37	62 13 50.85	+ 2 55.23	+ 1 47.3	15 32 38.24	− 4.09	113 24 54.6	−12.6
	3	42 Libræ		9	33 34.13	+ 0.35	− 15.37	62 13 50.85	+ 4 2.04	+ 1 47.4	15 33 19.11	− 4.09	113 26 1.5	−12.6
	4	Anonymous	10.5	9	40 51.62	+ 0.27	− 15.37	49 45 57.00	+ 4 47.29	+ 1 7.0	15 40 36.52	− 3.81	100 58 12.5	− 9.4
	5	B. A. C. 5261		9	48 23.30	+ 0.39	− 15.38	69 29 54.62	+ 5 24.34	+ 2 31.0	15 48 8.31	− 4.40	120 44 11.2	−12.5
	6	B. A. C. 5356		9	2 17.87	+ 0.39	− 15.38	69 29 55.38	+ 5 26.96	+ 2 31.1	16 2 2.88	− 4.47	120 44 14.6	−11.1
	7	B. A. C. 5393		9	6 59.92	+ 0.40	− 15.39	70 7 59.45	+ 4 15.84	+ 2 36.3	16 6 44.93	− 4.52	121 21 12.8	−10.7
	8	B. A. C. 5416		9	8 54.29	+ 0.39	− 15.39	69 5 55.78	+ 4 41.29	+ 2 28.0	16 8 39.29	− 4.49	120 19 26.3	−10.3
	9	B. A. C. 5435[1]	7	9	12 19.53	+ 0.39	− 15.39	69 23 54.18	+ 4 4.80	+ 2 30.3	16 12 4.53	− 4.51	120 36 50.5	−10.0
	10	B. A. C. 5435[2]	6	9	12 20.66	+ 0.39	− 15.39	69 23 54.18	+ 4 23.21	+ 2 30.3	16 12 5.66	− 4.51	120 37 8.9	−10.0
	11	B. A. C. 5506		9	23 45.37	+ 0.42	− 15.39	72 49 54.38	+ 5 10.64	+ 3 2.6	16 23 30.40	− 4.70	124 4 28.8	− 9.2
	12	Weisse (2) 839	9.2	6	28 30.65	− 0.06	− 15.40	352 57 58.22	+ 5 1.52	− 6.9	16 28 15.19	− 3.18	44 9 14.0	+ 2.2
	13	Weisse (2) 840	7.5	5	28 30.99	− 0.06	− 15.40	352 57 58.22	+ 4 46.18	− 6.9	16 28 15.53	− 3.18	44 8 58.7	+ 2.2
	14	Ceres		9	48 23.73	+ 0.32	− 15.40	60 55 56.30	+ 5 43.57	+ 1 42.3	16 48 8.65	. .	112 9 43.4	− 4.2
	15	B. A. C. 5731 (R)		.	. . .	. .	. .	172 7 57.42	+ 4 41.61	− 7.8	. . . .	. .	58 53 50.0	+ 1.3
	16	B. A. C. 5731		.	. . .	. .	. .	7 43 53.05	+ 3 29.19	+ 7.8	16 56 . .	. .	58 53 51.2	+ 1.3
	17	Weisse (2) 405		8	15 37.69	+ 0.06	− 15.42	13 9 52.00	+ 3 58.69	+ 13.4	17 15 22.33	− 3.45	64 20 25.3	+ 1.5
	18	Hebe		5	20 16.60	+ 0.20	− 15.42	41 57 56.08	+ 6 47.38	+ 51.4	17 20 1.38	. .	93 11 56.1	− 3.8
	19	β Draconis (R)		.	. . .	. .	. .	193 25 53.32	+ 3 41.52	+ 13.7	. . . .	. .	37 36 32.7	− 0.6
	20	β Draconis		.	. . .	. .	. .	346 25 56.15	+ 4 31.58	− 13.7	17 28 . .	. .	37 36 35.2	+ 1.9
	21	O. Arg. S. 17137-9		8	37 38.31	+ 0.35	− 15.43	65 57 56.30	+ 4 4.47	+ 2 7.5	17 37 23.23	− 4.59	117 10 29.5	− 0.1
	22	Anonymous		6	37 44.72	+ 0.35	− 15.43	65 57 56.30	+ 6 34.06	+ 2 7.7	17 37 29.64	− 4.59	117 12 59.3	− 0.1
	23	O. Arg. S. 17166-8		9	38 43.16	+ 0.35	− 15.43	65 57 56.30	+ 3 29.91	+ 2 7.4	17 38 28.08	− 4.59	117 9 54.8	0.0
	24	B. A. C. 6042[1]		5	46 7.97	+ 0.42	− 15.43	73 33 54.05	+ 2 28.46	+ 3 11.2	17 45 52.96	− 4.92	124 45 54.9	+ 0.6
	25	B. A. C. 6042[2]		5	46 9.57	+ 0.42	− 15.43	73 33 54.05	+ 1 58.45	+ 3 11.1	17 45 54.56	− 4.92	124 45 24.8	+ 0.6
	26	Massalia		9	51 25.17	+ 0.32	− 15.43	61 13 53.02	+ 6 8.37	+ 1 43.9	17 51 10.06	. .	112 28 6.5	− 4.5
	27	Parthenope		9	59 16.34	+ 0.29	− 15.43	57 29 53.95	+ 5 24.07	+ 1 29.6	17 59 1.20	. .	108 43 8.8	− 5.9
	28	Eunomia		9	5 8.46	+ 0.38	− 15.44	69 18 0.48	+ 6 12.38	+ 2 30.5	18 4 53.40	. .	120 33 4.6	− 4.6
	29	δ Ursæ Minoris		4	11 8.30	− 3.09	− 15.44	312 14 . .	. .	. .	18 10 49.77	. .	3 23 . .	. .
	30	η Serpentis		9	15 28.32	+ 0.20	− 15.46	41 43 53.22	+ 4 35.62	+ 51.0	18 15 13.08	. .	92 55 41.0	+ 2.8
	31	1 Aquilæ		9	29 3.19	+ 0.23	− 15.50	47 7 57.15	+ 4 10.87	+ 1 1.6	18 28 47.97	. .	98 19 30.8	+ 2.0
	32	α Lyræ		9	33 13.38	− 0.02	− 15.38	0 9 51.80	+ 3 20.27	+ 0.2	18 32 57.91	. .	51 19 33.5	+ 2.1
	33	B. A. C. 6362		9	36 41.17	+ 0.42	− 15.45	74 31 53.12	+ 3 43.65	+ 3 24.1	18 36 26.14	− 4.92	125 45 22.1	+ 6.8
	34	51 Cephei, S. P.		5	44 22.68	+ 4.02	− 15.45	306 3 50.58	+ 4 49.47	− 1 18.1	6 44 11.25	. .	357 13 43.1	+ 3.9
23, R.	35	α Persei		9	16 8.54	+ 0.02	− 16.50	349 23 56.82	+ 3 43.72	− 10.6	3 15 52.03	. .	40 33 51.1	− 1.1
	36	η Tauri		9	40 42.89	+ 0.09	− 16.50	15 3 58.12	+ 5 12.54	+ 15.4	3 40 26.44	. .	66 15 47.3	− 0.8
	37	α Tauri		3	29 23.63	+ 0.12	− 16.62	22 31 57.05	+ 5 9.54	+ 23.7	4 29 7.19	. .	73 43 51.5	+ 0.6
	38	α Aurigæ		8	8 12.40	+ 0.05	− 16.57	352 58 3.38	+ 3 13.38	− 6.9	5 7 55.88	. .	44 7 31.1	− 1.4
24	39	Sun I, N.		6	13 17.01	+ 0.11	− 16.60	15 8 1.78	+ 4 48.81	+ 15.3	6 13 0.52	+68.89	66 19 27.1	. .
	40	Sun II, S.		9	15 34.79	+ 0.11	− 16.60	15 39 57.30	+ 4 28.30	+ 15.8	6 15 18.30	−68.89	66 51 2.6	. .
	41	τ Herculis (R)		.	. . .	. .	. .	187 37 58.05	+ 4 10.24	+ 7.7	. . . .	. .	43 24 5.2	− 1.9
	42	τ Herculis		.	. . .	. .	. .	352 13 57.22	+ 3 56.76	− 7.7	16 16 . .	. .	43 24 7.5	+ 0.4
	43	β Herculis		9	25 26.36	+ 0.04	− 16.72	17 3 54.92	+ 4 28.61	+ 17.5	16 25 9.61	. .	68 15 2.2	+ 1.4
	44	ζ Ophiuchi		9	30 57.06	+ 0.16	− 16.84	49 8 2.80	+ 4 5.73	+ 1 5.8	16 30 40.42	. .	100 19 35.5	+ 1.2
	45	Ceres		9	46 45.78	+ 0.21	− 16.80	60 59 57.12	+ 5 50.82	+ 1 42.7	16 46 29.19	. .	112 13 51.8	− 4.2
	46	κ Ophiuchi		9	52 22.50	+ 0.08	− 16.79	29 15 56.70	+ 3 32.74	+ 32.0	16 52 5.77	. .	80 26 22.6	+ 2.1
	47	ε Ursæ Minoris		9	58 33.94	− 0.57	− 16.81	316 35 56.08	+ 4 41.69	− 53.6	16 58 16.56	. .	7 46 5.4	+ 0.5
	48	α[1] Herculis		9	9 33.69	+ 0.07	− 16.86	24 17 58.18	+ 3 37.91	+ 25.8	17 9 16.95	. .	75 28 23.1	+ 1.2
	49	Hebe		9	18 22.73	+ 0.13	− 16.82	42 8 1.30	+ 4 32.38	+ 51.6	17 18 6.04	. .	93 19 46.5	− 3.8
	50	Lalande 32322	6.5	9	35 56.52	− 0.01	− 16.82	1 31 56.52	+ 5 7.45	+ 1.6	17 35 39.69	− 3.37	52 43 26.8	+ 3.2

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
13	29.95	64.0	61.5
32	29.94	61.5	59.0
35	30.18	64.2	64.1
37	30.19	66.7	65.5
40	30.20	70.7	71.3
44	30.15	66.3	64.6
49	30.16	65.5	64.2

For summary of the constants of reduction see page 3.

9, 36. One bisection.
34, 35, 47. Three bisections.
48. Four bisections.

ZENITH-POINT CORR.

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1 to 34 + 43.52
35 to 40 + 40.31
41 to 50 + 41.71

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
39	− 2.3	+ 15 47.7	. .	+ 15 45.4
40	− 2.3	− 15 47.8	. .	− 15 50.1

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
June 24, R.	1	Lalande 32566	6.5	7	41 50.33	− 0.07	− 16.83	344 59 56.15	+ 2 48.74	− 15.2	17 41 33.43	− 3.30	36 8 50.9	+ 3.8
	2	Massalia	10	9	49 22.74	+ 0.20	− 16.83	61 13 58.62	+ 5 27.02	+ 1 43.7	17 49 6.11	. .	112 27 30.5	− 4.5
	3	Parthenope	9	9	57 19.24	+ 0.18	− 16.83	57 33 57.92	+ 5 36.25	+ 1 29.7	17 57 2.59	. .	108 47 25.1	− 5.9
	4	B. A. C. 6193	7	8	10 26.85	− 0.03	− 16.84	0 5 56.52	+ 3 13.42	+ 0.2	18 9 9.98	− 3.40	51 15 31.3	+ 3.8
	5	B. A. C. 6256	7	7	21 14.13	+ 0.25	− 16.84	70 24 0.88	+ 2 53.53	+ 2 39.2	18 19 57.54	− 4.79	121 35 54.8	+ 4.6
	6	Anonymous	8.5	8	21 41.91	+ 0.25	− 16.84	70 24 0.88	+ 5 8.61	+ 2 39.2	18 20 25.32	− 4.79	121 38 9.9	+ 4.7
	7	Weisse (2) 794	6.2	9	29 37.21	0.00	− 16.85	8 21 54.78	+ 3 35.62	+ 8.4	18 28 20.36	− 3.47	59 32 0.0	+ 4.3
	8	B. A. C. 6470	5.7	8	51 37.03	− 0.08	− 16.86	348 15 55.32	+ 4 14.77	− 11.8	18 50 20.09	− 3.38	39 26 19.5	+ 3.8
	9	Lalande 33511	5.3	9	56 14.88	+ 0.02	− 16.86	12 45 58.12	+ 3 23.95	+ 13.0	18 54 58.04	− 3.52	63 55 56.3	+ 5.2
	10	Lalande 35851	6.2	9	3 57.47	+ 0.05	− 16.86	22 8 0.12	+ 4 32.56	+ 23.4	19 2 40.66	− 3.61	73 19 17.3	+ 6.1
	11	Lalande 36282	5.8	9	12 7.77	0.00	− 16.87	8 29 52.75	+ 4 24.55	+ 8.6	19 10 50.90	− 3.47	59 40 47.1	+ 5.3
	12	Lalande 36489	5.7	7	17 35.05	+ 0.11	− 16.87	39 19 55.18	+ 1 26.12	+ 46.9	19 16 18.29	− 3.84	90 28 29.4	+ 8.3
	13	Lalande 36867	5.6	9	25 14.61	+ 0.06	− 16.87	24 28 1.12	+ 3 57.26	+ 26.1	19 23 57.80	− 3.62	75 38 45.7	+ 7.2
	14	κ Aquilæ	.	9	30 50.01	+ 0.13	**− 16.85**	46 6 0.75	+ 3 56.05	+ 59.6	19 30 33.26	. .	97 17 17.6	+ 0.7
	15	γ Aquilæ	.	9	40 56.58	+ 0.06	**− 16.86**	28 29 55.98	+ 3 37.91	+ 31.2	19 40 39.76	. .	79 40 26.3	+ 2.0
	16	λ Ursæ Minoris	.	5	43 51.26	− 4.94	− 16.88	309 53 56.68	+ 4 7.33	− 1 8.3	19 43 29.44	. .	1 3 16.9	+ 4.0
	17	τ Aquilæ	.	9	58 40.04	+ 0.07	**− 16.83**	31 51 57.15	+ 4 22.83	+ 35.8	19 58 23.22	. .	83 3 17.0	+ 1.7
	18	3 Urs. Maj., S. P.	.	9	1 15.33	+ 0.20	− 16.89	287 42 . .	. .	. .	8 0 58.64	. .	21 11 . .	. .
	19	κ Cephei (R)	.	.	. . . .	. .	. .	218 21 55.40	+ 4 50.43	+ 45.5	. . . .	. .	12 38 49.9	− 0.2
	20	κ Cephei	.	6	13 13.84	− 0.42	− 16.89	321 29 55.92	+ 3 21.20	− 45.5	20 12 56.53	. .	12 38 52.8	+ 2.7
	21	π Capricorni	.	9	20 51.42	+ 0.17	**− 17.02**	57 23 57.82	+ 3 59.60	+ 1 29.8	20 20 34.69	. .	108 35 48.4	+ 1.3
	22	ε Delphini	.	9	27 52.04	+ 0.06	**− 16.88**	27 53 58.70	+ 5 1.70	+ 30.5	20 27 35.20	. .	79 5 52.1	+ 1.6
	23	μ Aquarii (R)	.	.	. . . .	. .	. .	131 37 59.30	+ 3 56.88	− 1 4.4	. . . .	. .	99 25 29.4	+ 0.6
	24	μ Aquarii	.	.	. . . .	. .	. .	48 13 58.28	+ 4 7.39	+ 1 4.4	20 46 . .	. .	99 25 31.3	+ 2.5
26, E.	25	η Herculis	.	9	39 11.16	− 0.03	**− 18.91**	359 39 53.18	+ 4 46.97	− 0.3	16 38 52.24	. .	50 51 1.1	+ 1.4
	26	α Camelop., S. P.	.	9	42 34.47	+ 0.23	− 18.90	285 1 50.28	+ 3 26.50	− 3 24.1	4 42 15.80	. .	336 8 13.9	+ 1.2
	27	κ Ophiuchi	.	9	52 24.60	+ 0.11	**− 18.91**	29 15 55.30	+ 3 32.83	+ 31.4	16 52 5.81	. .	80 26 20.7	+ 0.5
	28	d Herculis	.	9	57 35.06	0.00	**− 18.94**	5 3 52.32	+ 5 12.27	− 5.0	16 57 16.15	. .	56 15 30.8	+ 2.5
	29	a^1 Herculis	.	9	9 35.69	+ 0.09	**− 18.87**	24 17 58.32	+ 3 38.04	+ 25.3	17 9 16.86	. .	75 28 22.9	+ 1.4
	30	Groom. 966, S. P.	.	9	24 9.31	+ 0.43	− 18.93	293 49 54.78	+ 3 27.74	− 2 5.5	5 23 50.81	. .	344 57 38.2	+ 1.0
	31	Comet *b* 1881, S. P.	.	9	48 56.99	+ 0.15	− 18.95	276 37 56.35	+ 3 57.44	− 7 23.3	5 48 38.19	. .	327 40 51.7	. .
	32	γ^2 Sagittarii	.	8	58 33.22	+ 0.33	**− 18.96**	69 12 . .	. .	. .	17 58 14.59	. .	120 25 . .	. .
	33	22 Camelop., S. P.	.	9	6 4.31	+ 0.30	− 18.96	288 13 52.82	+ 4 3.24	− 2 47.6	6 5 45.65	. .	339 21 29.7	+ 2.0
	34	δ Ursæ Minoris	.	4	11 10.78	− 2.12	− 18.97	312 13 51.48	+ 4 13.09	− 1 1.5	18 10 49.69	. .	3 23 24.3	+ 2.6
	35	η Serpentis	.	9	15 31.99	+ 0.16	**− 19.05**	41 43 53.20	+ 4 36.17	+ 50.1	18 15 13.18	. .	92 55 40.7	+ 3.1
	36	1 Aquilæ	.	.	. . . .	. .	. .	47 7 58.22	+ 4 9.16	+ 1 0.5	18 29 . .	. .	98 19 29.1	+ 0.7
	37	α Lyræ	.	9	33 16.98	− 0.04	**− 18.91**	0 9 51.45	+ 3 18.81	+ 0.2	18 32 57.95	. .	51 19 31.7	+ 1.6
	38	51 Cephei, S. P.	.	7	44 28.31	+ 2.60	− 18.99	306 3 53.75	+ 4 43.30	− 1 16.6	6 44 11.92	. .	357 13 41.6	+ 3.8
28, R.	39	δ Ophiuchi	.	9	8 31.89	+ 0.36	**− 21.89**	42 11 53.12	+ 4 14.54	+ 49.5	16 8 10.47	. .	93 23 18.4	+ 0.7
	40	τ Herculis	.	9	16 34.96	− 0.25	− 21.79	352 13 52.40	+ 4 0.36	− 7.4	16 16 12.92	. .	43 24 6.6	+ 0.5
	41	β Herculis	.	9	25 31.30	+ 0.08	**− 21.71**	17 3 51.00	+ 4 31.43	− 16.8	16 25 9.58	. .	68 15 0.4	+ 0.4
	42	η Herculis	.	9	39 14.16	− 0.15	**− 21.80**	359 39 50.40	+ 4 49.98	− 0.2	16 38 52.19	. .	50 51 1.4	+ 2.2
	43	α Camelop., S. P.	.	9	42 36.39	+ 1.10	− 21.82	285 1 50.62	+ 3 19.51	− 3 19.5	4 42 15.67	. .	336 8 11.8	− 0.5
	44	ε Ursæ Min., (R)	.	.	. . . .	. .	. .	223 15 52.35	+ 3 34.49	+ 51.6	. . . .	. .	7 46 2.8	− 0.9
	45	ε Ursæ Minoris	.	5	58 41.37	− 3.10	− 21.83	316 35 53.72	+ 4 40.75	− 51.6	16 58 16.44	. .	7 46 4.1	+ 0.4
	46	Weisse (2) 114	6.3	9	6 7.16	− 0.17	− 21.84	357 53 53.68	+ 4 7.95	− 1.9	17 5 45.15	− 3.28	49 4 20.9	+ 4.0
	47	Phthia	13	7	12 5.58	+ 0.49	− 21.85	54 7 55.15	+ 5 46.37	+ 1 15.9	17 11 44.22	. .	105 21 18.6	− 4.8
	48	Groom. 966, S. P.	.	9	24 10.76	+ 1.78	− 21.86	293 49 52.30	+ 3 27.72	− 2 3.1	5 23 50.68	. .	344 57 38.1	+ 1.4
	49	B. A. C. 5957	.	8	32 18.12	+ 0.74	− 21.87	71 1 52.38	+ 4 9.75	+ 2 38.6	17 31 56.99	− 4.84	122 15 1.9	− 1.3
	50	Massalia	10	9	45 24.78	+ 0.59	− 21.88	61 13 50.62	+ 4 16.11	+ 1 39.8	17 45 3.49	. .	112 26 7.7	− 4.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	30.16	65.4	63.8
7	30.15	64.8	63.2
14	30.12	63.2	60.3
23	30.12	61.5	58.6
26	30.09	74.0	72.0
30	30.09	74.2	72.0
31	30.09	74.2	71.1
38	30.11	71.5	71.0
41	29.80	79.4	79.3
49	29.78	77.6	76.5

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

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3, 5, 17. One bisection. 1 to 24 + 41.71

16, 34, 38. Three bisections. 25 to 38 + 41.54

10, 11, 13. 21, 22, 31, 48. Four bisections. 39 to 50 + 41.47

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″

DATE. AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
June 28, R.	1	Parthenope		9	53 30.03	+ 0.54	— 21.89	57 43 53.02	+ 4 44.39	+ 1 26.9	17 53 8.68	. .	108 56 25.5	— 5.9
	2	Comet *b* 1881, S. P.		2	0 24.68	+ 1.01	— 21.90	282 39 55.50	+ 2 43.54	— 3 57.4	6 0 3.79	. .	333 45 2.8	. .
	3	δ Ursæ Minoris		4	11 18.65	— 7.48	— 21.91	312 13 50.75	+ 4 10.04	— 1 0.2	18 10 49.26	. .	3 23 21.8	+ 0.7
	4	1 Aquilæ		9	29 9.60	+ 0.40	— **22.01**	47 7 57.70	+ 4 10.22	+ 59.1	18 28 48.08	. .	98 19 28.2	0.0
	5	α Lyræ		9	33 20.07	— 0.15	— **21.88**	0 9 48.48	+ 3 20.16	+ 0.2	18 32 57.99	. .	51 19 30.0	+ 0.5
	6	51 Cephei, S. P.		7	44 24.29	+ 9.51	— 21.94	306 3 51.28	+ 4 40.06	— 1 14.9	6 44 11.86	. .	357 13 37.6	+ 0.4
	7	B. A. C. 6491 (R)		.	. . . .	. .	. .	173 33 51.65	+ 4 19.95	— 6.1	. . . .	. .	57 28 15.7	+ 6.0
	8	B. A. C. 6491		.	. . . .	. .	. .	6 17 56.58	+ 3 53.12	+ 6.1	18 55 . .	. .	57 28 17.0	+ 6.0
	9	ζ Aquilæ		8	0 21.92	+ 0.16	— **21.92**	25 7 54.78	+ 3 57.20	+ 25.8	19 0 0.12	. .	76 18 39.0	+ 1.5
	10	Lalande 36282	5.3	9	11 13.04	— 0.04	— 21.97	8 29 49.15	+ 4 26.06	+ 8.3	19 10 51.03	— 3.52	59 40 44.7	+ 6.5
	11	Mer. C. Z. 129,87	9.2	4	13 28.00	+ 0.59	— 21.98	62 23 52.22	+ 4 19.92	+ 1 44.8	19 13 6.61	— 4.46	113 36 18.1	+10.2
29, W.	12	δ Ophiuchi		9	8 33.89	+ 0.42	— **23.95**	42 12 . .	. . .	. .	16 8 10.30	. .	93 23 . .	. .
	13	α¹ Herculis		9	9 40.81	+ 0.23	— **24.13**	24 17 55.32	+ 3 41.36	+ 24.9	17 9 16.97	. .	75 28 22.8	+ 1.9
	14	Groom. 966, S. P.		9	24 13.17	+ 1.91	— 24.08	293 49 51.62	+ 3 29.18	— 2 3.5	5 23 51.00	. .	344 57 38.5	+ 2.1
	15	ω Draconis		9	38 7.52	— 0.94	— 24.10	330 1 53.25	+ 3 27.64	— 31.7	17 37 42.48	. .	21 11 10.4	+ 2.2
	16	Comet *b* 1881, S. P.		9	7 11.94	+ 1.24	— 24.12	285 11 48.52	+ 4 30.26	— 3 18.5	6 6 49.06	. .	336 19 21.5	. .
	17	Anonymous, S. P.	8.7	9	14 6.12	+ 1.24	— 24.13	285 11 48.52	+ 6 55.16	— 3 18.1	6 13 43.23	— 1.73	336 21 46.8	+ 4.5
	18	1 Aquilæ		9	29 11.78	+ 0.48	— 24.14	47 8 . .	. . .	. .	18 28 48.12	. .	98 19 . .	. .
	19	α Lyræ		9	33 22.22	— 0.07	— **24.10**	0 9 49.00	+ 3 19.64	+ 0.2	18 32 58.00	. .	51 19 30.0	+ 0.8
	20	51 Cephei, S. P.		9	44 26.59	+ 9.80	— 24.17	306 3 51.92	+ 4 42.15	— 1 15.4	6 44 12.22	. .	357 13 39.9	+ 2.9
	21	ζ Aquilæ		9	0 24.12	+ 0.24	— **24.19**	25 7 54.80	+ 3 56.63	+ 26.0	19 0 0.19	. .	76 18 38.6	+ 1.3
	22	*d* Sagittarii		9	11 8.27	+ 0.62	— **24.22**	57 57 54.95	+ 3 53.98	+ 1 28.1	19 10 44.71	. .	109 9 38.2	+ 0.1
	23	Piazzi VII, 67, S.P.		9	18 53.27	+ 1.38	— 24.19	287 33 52.32	+ 4 56.98	— 2 51.4	7 18 30.46	. .	338 42 19.1	+ 0.2
	24	κ Aquilæ (R)		.	. . . .	. .	. .	133 45 53.22	+ 4 10.45	— 57.4	. . . .	. .	97 17 14.9	— 1.4
	25	κ Aquilæ		.	. . . .	. .	. .	46 5 49.45	+ 4 9.86	+ 57.4	19 30 . .	. .	97 17 17.9	+ 1.6
	26	B. A. C. 6905 (R)		.	. . . .	. .	. .	205 29 46.52	+ 5 30.73	+ 26.4	. . . .	. .	25 30 37.6	+ 4.2
	27	B. A. C. 6905		.	. . . .	. .	. .	334 19 49.10	+ 4 57.20	— 26.4	20 0 . .	. .	25 30 41.1	+ 4.2
E.	28	γ Tauri		9	13 27.39	+ 0.32	— **24.65**	23 27 57.28	+ 4 55.36	+ 24.0	4 13 3.01	. .	74 39 37.8	+ 1.6
	29	α Tauri		9	29 31.71	+ 0.31	— **24.75**	22 31 49.78	+ 5 18.72	+ 22.9	4 29 7.31	. .	73 43 52.6	+ 2.2
	30	ι Aurigæ		5	49 41.14	+ 0.08	— **24.65**	5 50 . .	. . .	. .	4 49 16.50	. .	57 2 . .	. .
	31	α Aurigæ		9	8 20.77	— 0.13	— 24.73	352 58 . .	. . .	. .	5 7 55.91	. .	44 8 . .	. .
	32	β Orionis		8	9 14.45	+ 0.63	— **24.80**	47 7 58.45	+ 5 3.34	+ 59.1	5 8 50.35	. .	98 20 22.1	+ 0.5
30	33	Sun I, S.		9	38 19.09	+ 0.24	— 24.78	15 55 51.08	+ 4 22.08	+ 15.6	6 37 54.55	+68.86	67 6 50.0	. .
	34	Sun II, N.		5	40 36.82	+ 0.24	— 24.78	15 23 54.72	+ 4 49.24	+ 15.1	6 40 12.28	—68.87	66 35 20.3	. .
	35	β Geminorum		9	38 28.20	+ 0.19	— **24.82**	10 29 47.42	+ 5 4.95	+ 10.1	7 38 3.57	. .	61 41 23.7	+ 2.3
July 1, S.	36	α² Libræ		9	44 46.91	+ 0.46	— **26.01**	54 19 53.00	+ 5 29.19	+ 1 18.1	14 44 21.27	. .	105 33 1.5	+ 0.2
	37	β Ursæ Minoris		9	51 33.28	— 1.13	— 26.10	324 11 50.85	+ 3 54.22	— 40.3	14 51 6.05	. .	15 21 26.9	+ 2.6
	38	48 Cephei, S. P.		9	5 43.53	+ 1.74	— 26.10	296 9 50.62	+ 3 20.29	— 1 53.3	3 5 19.17	. .	347 17 38.8	+ 2.4
	39	β Libræ		9	11 5.62	+ 0.39	— **26.16**	47 43 54.48	+ 5 27.85	+ 1 1.9	15 10 39.90	. .	98 56 45.4	+ 0.5
	40	B. A. C. 5097 (R)		.	. . . .	. .	. .	200 23 53.58	+ 5 13.36	+ 21.0	. . . .	. .	30 36 53.3	+ 5.2
	41	B. A. C. 5097		.	. . . .	. .	. .	339 25 56.35	+ 5 1.12	— 21.0	15 22 . .	. .	30 36 57.7	+ 5.2
	42	B. A. C. 5150		9	31 15.76	+ 0.22	— 26.11	28 23 54.60	+ 4 45.52	+ 30.5	15 30 49.87	— 3.36	79 35 31.8	— 4.2
	43	Lal. (F.) 2683		9	41 44.04	— 0.28	— 26.11	345 27 56.75	+ 4 36.15	— 14.5	15 41 17.65	— 2.86	36 38 39.6	+ 4.7
	44	B. A. C. 5234		9	43 52.23	+ 0.14	— 26.11	20 17 56.50	+ 4 47.76	+ 20.9	15 43 26.26	— 3.29	71 29 26.4	— 1.6
	45	B. A. C. 5267		9	49 14.69	+ 0.65	— 26.11	70 13 54.80	+ 3 30.94	+ 2 35.8	15 48 49.23	— 4.41	121 26 22.7	—13.0
	46	β¹ Scorpii		9	59 0.88	+ 0.50	— **26.15**	58 15 57.18	+ 5 2.04	+ 1 31.2	15 58 35.27	. .	109 28 51.6	— 0.3
	47	B. A. C. 5604 (R.)		.	. . . .	. .	. .	172 51 52.25	+ 3 46.88	— 7.0	. . . .	. .	58 10 49.1	+ 3.0
	48	B. A. C. 5604		.	. . . .	. .	. .	6 59 51.38	+ 4 30.85	+ 7.0	16 37 . .	. .	58 10 50.4	+ 3.0
	49	B. A. C. 5669		9	47 29.32	+ 0.64	— 26.12	70 45 57.79	+ 4 36.21	+ 2 41.0	16 47 3.84	— 4.72	121 59 36.2	— 6.7
	50	*d* Herculis		9	57 42.18	— 0.02	— **26.05**	5 3 54.25	+ 5 6.35	+ 5.1	16 57 16.03	. .	56 15 26.9	— 0.2

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
4	29.77	77.9	77.1
11	29.77	76.2	75.7
13	29.80	76.9	75.4
17	29.80	75.5	74.6
27	29.80	74.6	73.6
28	29.92	78.0	77.5
34	29.91	81.6	83.2
37	30.09	72.2	71.2
46	30.10	69.5	68.2

For summary of the constants of reduction see page 3.

		ZENITH-POINT CORR.
		″
24.	One bisection.	1 to 11 + 41.47
23.	Three bisections.	13 to 27 + 41.47
3, 14, 20.	Four bisections.	28 to 35 + 41.03
6, 16.	Five bisections.	36 to 50 + 40.24

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
33	— 2.4	— 15 44.8	. .	— 15 47.2
34	— 2.3	+ 15 44.8	. .	+ 15 42.5

ATE AND S'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
uly S.	1	γ^2 Sagittarii . .	.	9	58 40.30	+ 0.62	— **26.28**	69 11 53.70	+ 4 40.24	+ 2 28.6	17 58 14.78	. .	120 25 23.7	— 0.5
	2	δ Ursæ Minoris .	.	5	11 22.28	— 6.28	— 26.14	312 14 . .	. .	. .	18 10 49.86	. .	3 23 . .	. .
	3	Comet b 1881, S. P.	.	9	23 11.86	+ 1.22	— 26.14	289 31 53.40	+ 4 19.97	— 2 37.8	6 22 46.94	. .	340 39 56.8	. .
	4	51 Cephei, S. P. .	.	6	44 31.27	+ 8.11	— 26.15	306 3 54.02	+ 4 41.73	— 1 17.6	6 44 13.23	. .	357 13 39.4	+ 3.0
	5	β Lyræ . . .	.	9	46 10.82	— 0.02	— **26.08**	5 35 53.88	+ 4 3.12	+ 5.6	18 45 44.65	. .	56 46 23.8	+ 1.3
	6	σ Sagittarii . .	.	8	48 23.40	+ 0.56	— 26.15	65 13 55.62	+ 4 7.67	+ 2 2.7	18 47 57.81	. .	116 26 27.2	+ 0.2
R.	7	γ Tauri . . .	.	9	13 29.73	+ 0.16	— **26.78**	23 28 0.95	+ 4 51.11	+ 24.4	4 13 3.09	. .	74 39 37.7	+ 1.7
	8	α Tauri . . .	.	9	29 33.91	+ 0.17	— **26.77**	22 32 . .	. .	. .	4 29 7.27	. .	73 44 . .	. .
	9	ι Aurigæ . . .	.	6	49 43.44	+ 0.06	— **26.88**	5 49 54.20	+ 5 6.18	+ 5.8	4 49 16.67	. .	57 1 27.4	+ 0.1
	10	α Aurigæ . . .	.	9	8 22.91	— 0.05	— 26.84	352 57 57.25	+ 3 21.08	— 6.8	5 7 56.02	. .	44 7 32.7	— 0.6
	11	β Tauri . . .	.	9	19 14.73	+ 0.09	— **26.85**	10 17 58.15	+ 5 12.49	+ 10.2	5 18 47.97	. .	61 29 42.0	— 0.5
	12	Sun I, S. . .	.	9	46 37.72	+ 0.15	— 26.91	16 3 57.90	+ 4 48.22	+ 16.0	6 46 10.96	+68.66	67 15 23.3	. .
	13	Sun II, N. . .	.	9	48 55.06	+ 0.15	— 26.92	15 31 53.05	+ 5 22.21	+ 15.5	6 48 28.29	—68.67	66 43 52.0	. .
	14	ι Ursæ Majoris .	.	9	51 32.02	— 0.04	— 27.01	350 19 53.78	+ 3 30.03	— 9.3	8 51 4.97	. .	41 29 35.7	— 0.8
	15	α Hydræ . . .	.	8	22 12.65	+ 0.35	— **27.15**	46 57 58.68	+ 3 34.07	+ 58.9	9 21 45.97	. .	98 8 52.9	+ 1.0
	16	ϵ Leonis . . .	.	9	39 34.32	+ 0.14	— **27.00**	14 29 52.60	+ 4 25.50	+ 14.3	9 39 7.41	. .	65 40 53.6	+ 2.6
	17	α Leonis . . .	.	9	2 30.69	+ 0.21	— **27.08**	26 15 54.75	+ 4 36.50	+ 27.2	10 2 3.84	. .	77 27 19.6	+ 2.1
	18	γ^2 Leonis . . .	.	9	13 53.38	+ 0.16	— **27.03**	18 21 54.62	+ 5 2.91	+ 18.4	10 13 26.47	. .	69 33 37.1	+ 2.4
	19	α Ursæ Majoris .	.	8	56 51.35	— 0.21	— 27.10	336 25 58.70	+ 4 30.96	— 23.9	10 56 24.04	. .	27 36 27.0	+ 2.1
	20	δ Leonis . . .	.	9	8 15.68	+ 0.16	— **27.06**	17 37 59.40	+ 5 0.37	+ 17.6	11 7 48.73	. .	68 49 38.6	+ 1.2
	21	Moon I, N. .	.	9	15 19.51	+ 0.30	— 27.11	40 5 59.05	+ 4 8.32	+ 46.4	11 14 52.70	+61.86	91 17 15.0	. .
	22	Phthia . . .	13.5	3	9 0.45	+ 0.34	— 27.31	54 5 59.98	+ 5 5.45	+ 1 18.0	17 8 33.48	. .	105 18 44.6	— 4.8
	23	b Ophiuchi . .	.	9	19 37.54	+ 0.42	— **27.23**	62 51 54.55	+ 3 48.18	+ 1 50.0	17 19 10.65	. .	114 3 53.9	+ 0.6
	24	Groom. 966, S. P.	.	9	24 17.11	+ 1.02	— 27.31	293 49 54.20	+ 3 30.70	— 2 6.8	5 23 50.82	. .	344 57 39.3	+ 3.6
	25	α Ophiuchi . .	.	5	29 55.48	+ 0.14	— **27.29**	26 9 48.28	+ 4 30.97	+ 27.9	17 29 28.30	. .	77 21 8.3	+ 3.3
	26	Massalia . .	9.5	9	41 37.81	+ 0.40	— 27.32	61 11 53.50	+ 4 36.77	+ 1 42.8	17 41 10.89	. .	112 24 34.3	— 4.4
	27	Parthenope . .	8.7	9	49 50.19	+ 0.37	— 27.32	57 53 56.70	+ 4 9.99	+ 1 30.1	17 49 23.24	. .	109 5 58.0	— 5.9
	28	Eunomia . .	8.8	9	54 40.80	+ 0.48	— 27.32	68 41 54.92	+ 4 24.84	+ 2 24.4	17 54 13.96	. .	119 55 5.4	— 4.6
	29	γ^2 Sagittarii . .	.	3	58 41.61	+ 0.47	— **27.43**	69 11 52.05	+ 4 44.08	+ 2 28.2	17 58 14.76	. .	120 25 25.5	+ 1.2
	30	22 Camelop., S. P. .	.	9	6 12.03	+ 0.74	— 27.32	288 13 51.15	+ 4 5.47	— 2 49.1	6 5 45.45	. .	339 21 28.7	+ 2.6
	31	δ Ursæ Minoris .	.	6	11 20.43	— 4.35	— 27.32	312 13 54.22	+ 4 8.99	— 1 2.1	18 10 48.76	. .	3 23 22.3	+ 2.4
	32	D.M.+72°,325, S.P.	9.2	9	25 23.04	+ 0.89	— 27.33	291 29 53.00	+ 1 34.05	— 2 22.5	6 24 56.60	— 1.62	342 35 25.7	+ 5.3
	33	Comet b 1881, S.P.	.	9	32 34.53	+ 0.89	— 27.33	291 21 50.82	+ 3 3.62	— 2 23.4	6 32 8.09	. .	342 28 52.2	. .
	34	D.M.+72°,337, S.P.	9.5	9	40 40.12	+ 0.90	— 27.33	291 21 50.82	+ 8 58.79	— 2 22.8	6 40 13.69	— 1.54	342 34 48.0	+ 5.1
	35	50 Draconis . .	.	9	50 44.84	— 0.92	— 27.33	323 31 53.18	+ 4 49.71	— 41.8	18 50 16.59	. .	14 42 22.3	+ 2.4
	36	ζ Aquilæ . . .	.	9	0 27.40	+ 0.12	— **27.31**	25 7 58.18	+ 3 52.87	+ 26.7	19 0 0.19	. .	76 18 38.9	+ 2.3
	37	δ Draconis (R) .	.	.	. . . .	. .	. .	208 27 57.80	+ 5 6.55	+ 30.9	. . . .	. .	22 32 45.9	— 0.3
	38	δ Draconis . .	.	5	13 3.01	— 0.54	— 27.34	331 21 53.62	+ 5 4.88	— 30.9	19 12 35.13	. .	22 32 48.8	+ 2.6
	39	Piazzi VII,67, S.P.	.	3	18 56.93	+ 0.74	— 27.34	287 33 55.98	+ 4 59.52	— 2 56.4	7 18 30.33	. .	338 42 20.3	+ 2.2
	40	κ Aquilæ (R) . .	.	.	. . . .	. .	. .	133 45 57.15	+ 4 7.00	— 59.1	. . . .	. .	97 17 16.1	+ 0.2
	41	κ Aquilæ . . .	.	.	. . . .	. .	. .	46 5 56.28	+ 4 0.70	+ 59.1	19 30 . .	. .	97 17 17.3	+ 1.4
	42	λ Ursæ Minoris .	.	6	44 13.28	—14.64	— 27.34	309 53 56.02	+ 4 4.12	— 1 7.7	19 43 31.30	. .	1 3 13.6	+ 3.2
	43	3 Ursæ Maj., S. P.	.	9	1 25.03	+ 0.75	— 27.35	287 41 52.30	+ 4 1.31	— 2 55.4	8 0 58.43	. .	338 49 19.4	+ 3.4
	44	α^2 Capricorni . .	.	9	11 58.33	+ 0.30	— **27.44**	51 43 54.82	+ 3 3.95	+ 1 12.1	20 11 31.28	. .	102 54 32.1	+ 1.5
	45	γ Cygni . . .	.	9	18 28.38	— 0.10	— **27.19**	358 55 55.98	+ 5 2.86	— 1.0	20 18 0.93	. .	50 7 19.0	+ 1.5
	46	π Capricorni . .	.	9	21 1.81	+ 0.35	— **27.42**	57 23 54.05	+ 4 4.48	+ 1 29.0	20 20 34.81	. .	108 35 48.7	+ 2.2
	47	ϵ Delphini . .	.	9	28 2.62	+ 0.13	— **27.37**	27 53 54.28	+ 5 4.26	+ 30.2	20 27 35.40	. .	79 5 49.9	+ 1.2
W.	48	β Leonis . . .	.	9	43 29.49	+ 0.15	— **28.08**	23 33 55.78	+ 5 17.81	+ 23.7	11 43 1.50	. .	74 45 58.5	+ 2.0
	49	Moon, I, N. . .	.	9	2 0.02	+ 0.30	— 28.16	44 58 0.92	+ 6 55.86	+ 54.3	12 1 32.16	+62.91	96 12 12.3	. .
	50	γ Corvi . . .	.	9	10 11.49	+ 0.38	— **28.16**	55 41 56.55	+ 3 37.79	+ 1 19.4	12 9 43.70	. .	106 53 14.9	+ 1.7

Barom.	At. Ther.	Ex. Ther.
in.	°	°
30.09	67.3	65.4
30.09	66.6	64.4
30.23	73.6	74.8
30.23	75.6	76.7
30.23	78.6	79.8
30.23	82.8	83.7
30.24	83.5	83.3
30.21	81.5	83.2
30.20	81.4	82.9
30.19	70.6	69.1
30.19	70.0	68.2
30.21	70.5	68.5
30.22	69.5	67.6
30.19	67.6	65.6
30.19	66.5	64.6
30.10	85.0	89.3

For summary of the constants of reduction see page 3.

7. One bisection.
49. Three bisections.
3, 15, 16, 17, 18, 20, 24, 30, 47, 50. Four bisections.
21, 31, 33, 42, 43. Five bisections.

ZENITH-POINT CORR.

	″
1 to 6	+ 40.24
7 to 21	+ 40.20
22 to 47	+ 41.02
48 to 50	+ 40.09

47. Barometer and thermometers read at 20h 41m.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
12	— 2.4	— 15 45.6	. .	— 15 48.0
13	— 2.3	+ 15 45.6	. .	+ 15 43.3
21	—35 13.6	+ 14 59.1	. .	— 20 14.5
49	—39 7.2	+ 15 8.9	. .	— 23 58.3

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
July 3, W.	1	η Virginis		9	14 19.47	+ 0.25	**— 28.20**	38 47 56.05	+ 5 36.89	+ 43.7	12 13 51.55	. .	90 0 37.8	+ 3.1
	2	θ Virginis		9	4 18.09	+ 0.29	**— 28.26**	43 41 53.45	+ 5 23.48	+ 52.1	13 3 50.16	. .	94 54 30.2	+ 2.3
	3	Polaris, S. P.		6	15 43.20	+ 8.65	— 28.23	307 31 53.28	+ 3 19.48	— 1 10.6	1 15 23.62	. .	358 40 23.4	+ 0.2
	4	α Scorpii		9	22 39.14	+ 0.43	**— 28.44**	64 57 58.85	+ 3 50.16	+ 1 58.8	16 22 11.17	. .	116 10 9.0	+ 1.2
	5	β Herculis		4	25 37.96	+ 0.06	**— 28.37**	17 3 49.78	+ 4 31.81	+ 17.1	16 25 9.62	. .	68 14 59.9	+ 0.9
	6	η Herculis		9	39 20.66	— 0.07	**— 28.41**	359 39 52.62	+ 4 46.64	— 0.2	16 38 52.18	. .	50 51 0.3	+ 2.3
	7	α¹ Herculis (R)			. . . .	. .	. .	155 33 54.12	+ 4 31.27	— 25.2	. . . .	. .	75 28 21.0	+ 0.9
	8	α¹ Herculis			. . . .	. .	. .	24 17 56.75	+ 3 38.25	+ 25.2	17 9 . .	. .	75 28 21.4	+ 1.3
	9	ω Draconis (R)			. . . .	. .	. .	209 49 53.00	+ 4 50.55	+ 32.1	. . . .	. .	21 11 5.5	— 1.4
	10	ω Draconis		5	38 11.25	— 0.56	— 28.46	330 1 56.60	+ 3 24.58	— 32.1	17 37 42.23	. .	21 11 10.3	+ 3.4
	11	μ Sagittarii		9	7 11.43	+ 0.37	**— 28.48**	59 53 56.40	+ 3 23.41	+ 1 36.1	18 6 43.31	. .	111 5 17.1	+ 2.2
	12	δ Ursæ Minoris		8	11 21.22	— 4.17	— 28.49	312 13 53.02	+ 4 9.32	— 1 1.3	18 10 48.56	. .	3 23 22.2	+ 2.6
	13	Comet *b* 1881, S. P.		9	43 0.61	+ 0.91	— 28.52	292 55 56.35	+ 5 8.47	— 2 10.6	6 42 33.00	. .	344 5 15.4	. .
	14	O. Arg. N. 7287, S. P.		8	45 52.65	+ 0.91	— 28.53	292 55 56.35	+ 6 27.05	— 2 10.5	6 45 25.03	— 1.46	344 6 34.1	+ 5.4
4, S.	15	α Aurigæ		8	8 26.09	— 0.01	**— 30.05**	352 57 58.30	+ 3 21.26	— 6.7	5 7 56.04	. .	44 7 34.1	+ 0.5
	16	β Orionis		9	9 20.00	+ 0.41	**— 30.04**	47 8 1.22	+ 5 0.74	+ 58.9	5 8 50.37	. .	98 20 22.1	+ 1.3
	17	ε Orionis		9	30 41.53	+ 0.35	**— 30.04**	40 5 57.72	+ 3 39.70	+ 45.9	5 30 11.83	. .	91 16 44.5	+ 1.1
5	18	Sun I, S.		8	59 2.92	+ 0.18	— 30.09	16 19 49.85	+ 4 43.39	+ 15.9	6 58 33.01	+68.52	67 31 10.3	. .
	19	Sun II, N.		9	1 19.97	+ 0.18	— 30.09	15 47 55.58	+ 5 7.84	+ 15.4	7 0 50.06	—68.53	66 59 40.0	. .
	20	ζ Virginis		9	29 10.67	+ 0.31	**— 30.33**	38 47 56.08	+ 4 27.54	+ 43.3	13 28 40.72	. .	89 59 28.1	+ 1.9
	21	Moon I, N.		9	42 24.59	+ 0.44	— 30.27	54 13 51.02	+ 3 11.86	+ 1 14.6	13 41 54.76	+66.95	105 24 38.7	. .
	22	ρ Bootis		9	27 15.11	+ 0.05	**— 30.25**	7 55 54.75	+ 3 58.34	+ 7.6	14 26 44.86	. .	59 6 21.9	+ 0.7
	23	α² Libræ		9	44 51.30	+ 0.43	**— 30.40**	54 20 . .	. . .	. .	14 44 21.42	. .	105 33 . .	. .
	24	B. A. C. 4980 (R.)			. . . .	. .	. .	189 39 49.92	+ 3 8.64	+ 9.3	. . . .	. .	41 23 13.3	+ 3.9
	25	B. A. C. 4980			. . . .	. .	. .	350 11 50.88	+ 5 14.33	— 9.3	15 1 . .	. .	41 23 17.1	+ 3.9
	26	B. A. C. 5147		5	29 48.81	— 0.44	— 30.34	334 13 53.65	+ 3 33.69	— 26.2	15 29 18.03	— 2.52	25 23 22.3	+ 6.5
	27	B. VI+52°, 1886		9	33 17.13	— 0.20	— 30.34	346 21 50.02	+ 4 21.43	— 13.2	15 32 46.59	— 2.75	37 32 19.4	+ 5.2
	28	Lal. (F.) 606, S. P.		9	46 32.16	+ 1.14	— 30.35	294 41 53.35	+ 3 25.87	— 1 57.7	3 46 2.95	— 2.98	345 49 42.7	+ 6.4
	29	B. A. C. 5352		9	56 27.64	— 2.24	— 30.35	315 31 50.18	+ 4 20.42	— 53.4	15 55 55.05	— 1.90	6 41 38.4	+ 7.6
	30	τ Herculis		9	16 43.26	— 0.14	— 30.36	352 13 53.80	+ 3 57.47	— 7.4	16 16 12.76	. .	43 24 5.1	+ 0.7
	31	β Herculis		9	25 39.80	+ 0.10	**— 30.26**	17 3 55.28	+ 4 24.92	+ 16.9	16 25 9.53	. .	68 14 58.3	— 0.3
	32	Groom. 966, S. P.		9	24 20.46	+ 1.12	— 30.40	293 49 51.10	+ 3 27.42	— 2 3.2	5 23 51.18	. .	344 57 36.5	+ 1.5
	33	B. A. C. 6029		9	44 52.41	+ 0.63	— 30.42	73 29 51.65	+ 6 39.02	+ 3 4.3	17 44 22.62	— 5.02	124 45 56.2	— 0.4
	34	B. A. C. 6037		9	45 58.58	+ 0.63	— 30.42	73 29 51.65	+ 2 44.31	+ 3 3.5	17 45 28.79	— 5.02	124 42 0.7	— 0.2
	35	B. A. C. 6074¹		6	52 1.55	+ 0.56	— 30.42	69 1 54.25	+ 3 42.27	+ 2 22.8	17 51 31.69	— 4.83	120 14 20.5	+ 0.9
	36	B. A. C. 6074²		5	52 1.97	+ 0.56	— 30.42	69 1 54.25	+ 3 43.48	+ 2 22.8	17 51 32.11	— 4.83	120 14 21.7	+ 0.9
	37	δ Ursæ Minoris			. . . .	. .	. .	312 13 52.35	+ 4 7.87	— 1 0.4	18 11 . .	. .	3 23 21.0	+ 2.1
	38	1 Aquilæ		9	29 18.22	+ 0.33	**— 30.49**	47 7 58.80	+ 4 8.46	+ 59.5	18 28 48.11	. .	98 19 28.0	+ 0.5
	39	α Lyræ		9	33 28.54	— 0.06	**— 30.41**	0 9 50.50	+ 3 15.97	+ 0.2	18 32 58.03	. .	51 19 27.9	+ 0.6
	40	51 Cephei, S. P.		6	44 36.90	+ 6.14	— 30.45	306 3 54.12	+ 4 37.27	— 1 15.4	6 44 12.59	. .	357 13 37.2	+ 2.1
	41	β Lyræ		8	46 15.18	— 0.01	**— 30.42**	5 35 52.12	+ 4 2.05	+ 5.5	18 45 44.72	. .	56 46 20.9	— 0.4
	42	σ Sagittarii		9	48 27.83	+ 0.52	**— 30.48**	65 13 51.45	+ 4 16.46	+ 1 59.2	18 47 57.90	. .	116 26 28.3	+ 1.2
	43	Comet *b* 1881, S. P.		9	7 13.27	+ 1.32	— 30.47	295 35 51.55	+ 4 33.20	— 1 54.4	7 6 44.12	. .	346 44 51.6	. .
R.	44	η Tauri		9	40 57.81	+ 0.24	**— 31.23**	15 3 52.52	+ 5 20.22	+ 14.7	3 40 26.87	. .	66 15 48.6	+ 1.2
	45	ζ Persei		9	47 12.43	+ 0.14	**— 31.15**	7 17 56.15	+ 3 50.63	+ 7.0	3 46 41.38	. .	58 28 15.0	— 0.1
	46	Venus II, N.		9	51 8.72	+ 0.33	— 31.20	22 15 51.95	+ 4 32.48	+ 22.3	3 50 37.85	— 0.90	73 27 7.9	. .
	47	α Aurigæ		9	8 27.34	— 0.06	— 31.35	352 57 56.38	+ 3 23.01	— 6.6	5 7 55.93	. .	44 7 34.0	+ 0.3
	48	β Tauri		9	19 19.18	+ 0.19	**— 31.31**	10 17 54.80	+ 5 16.95	+ 9.9	5 18 48.00	. .	61 29 42.9	+ 0.3
	49	δ Orionis		9	26 27.83	+ 0.53	**— 31.34**	39 11 52.15	+ 4 21.70	+ 44.0	5 25 56.98	. .	90 23 19.0	+ 2.3
	50	ε Orionis		9	30 42.72	+ 0.54	**— 31.40**	40 5 55.72	+ 3 42.65	+ 45.4	5 30 11.87	. .	91 16 45.0	+ 1.7

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.08	84.7	88.4
3	30.08	83.7	85.8
6	30.07	75.3	74.6
14	30.03	72.6	71.6
15	30.01	83.2	83.9
19	30.01	86.8	89.2
20	29.94	89.6	90.7
26	29.97	83.5	83.3
37	. .	78.9	77.9
42	29.97	78.5	77.0
43	29.96	77.8	76.2
46	29.98	84.2	85.6
47	29.99	87.3	88.5

For summary of the constants of reduction see page 3.

4, 18. One bisection.
21, 40. Three bisections.
3, 13, 43, 45, 46. Four bisections.

ZENITH-POINT CORR.

	″
1 to 14	+ 40.09
15 to 19	+ 38.43
20 to 43	+ 38.48
44 to 50	+ 38.76

37. Barometer reading not recorded. Assumed as 29in.97 in reduction.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
18	— 2.4	— 15 45.1	. .	— 15 47.5
19	— 2.4	+ 15 45.2	. .	+ 15 42.8
21	—46 13.5	+ 15 35.8	. .	— 30 37.7
46	— 5.1	+ 13.0	. .	+ 7.9

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
July					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
R.	1	α Orionis		9	49 16.29	+ 0.45	− **31.50**	31 25 56.75	+ 4 10.97	+ 33.0	5 48 45.32	. .	82 37 1.9	+ 1.9
	2	51 Cephei, S. P.		6	44 33.83	+10.84	− 31.88	306 3 49.55	+ 4 41.32	− 1 15.5	6 44 12.79	. .	357 13 36.6	+ 1.8
	3	ζ Aquilæ		9	0 31.80	+ 0.29	− **31.85**	25 7 54.28	+ 3 56.56	+ 26.0	19 0 0.20	. .	76 18 38.0	+ 2.3
	4	d Sagittarii		9	11 16.01	+ 0.70	− **31.95**	57 57 56.32	+ 3 52.70	+ 1 28.2	19 10 44.80	. .	109 9 38.4	+ 0.7
	5	Comet b 1881, S. P.		9	21 6.21	+ 2.63	− 31.91	296 41 51.05	+ 3 33.99	− 1 49.1	7 20 36.93	. .	347 49 57.1	. .
	6	Groom. 1361, S. P.	7.2	9	41 14.40	+ 2.65	− 31.93	296 41 51.05	+ 6 25.48	− 1 49.0	7 40 45.12	− 0.84	347 52 48.7	+ 5.3
	7	λ Ursæ Minoris		4	44 30.50	−27.73	− 31.94	309 53 51.45	+ 4 5.22	− 1 5.9	19 43 30.83	. .	1 3 12.0	+ 3.0
	8	3 Ursæ Maj., S. P.		5	1 28.83	+ 1.57	− 31.95	287 41 49.18	+ 3 57.27	− 2 50.6	8 0 58.45	. .	338 49 17.0	+ 2.1
	9	a^2 Capricorni		9	12 2.74	+ 0.62	− **32.10**	51 43 50.12	+ 3 11.03	+ 1 10.1	20 11 31.40	. .	102 54 32.5	+ 2.3
	10	γ Cygni		9	18 33.10	− 0.07	− **31.88**	358 55 52.92	+ 5 4.22	− 0.9	20 18 1.06	. .	50 7 17.4	+ 1.1
	11	π Capricorni		9	21 6.13	+ 0.70	− **32.01**	57 24 . .	. .	. .	20 20 34.86	. .	108 36 . .	. .
	12	ε Delphini		9	28 7.03	+ 0.32	− **31.89**	27 53 52.50	+ 5 6.90	+ 29.4	20 27 35.37	. .	79 5 50.0	+ 2.2
	13	α Cygni (R)			. . . .	. .	. .	185 53 48.42	+ 3 54.91	+ 5.8	. . . .	. .	45 8 32.1	+ 0.5
	14	α Cygni			. . . .	. .	. .	353 57 56.10	+ 4 21.08	− 5.8	20 37 . .	. .	45 8 32.6	+ 1.0
	15	μ Aquarii (R)			. . . .	. .	. .	131 37 53.92	+ 4 2.73	− 1 2.0	. . . .	. .	99 25 26.6	− 0.5
	16	μ Aquarii			. . . .	. .	. .	48 13 52.32	+ 4 12.61	+ 1 2.0	20 46 . .	. .	99 25 28.1	+ 1.0
W.	17	α Aurigæ		9	8 28.10	− 0.04	− **32.96**	352 57 56.05	+ 3 23.89	− 6.7	5 7 56.27	. .	44 7 34.4	+ 0.6
	18	α Orionis		9	49 17.77	+ 0.46	− **32.97**	31 25 56.72	+ 4 10.27	+ 33.5	5 48 45.34	. .	82 37 1.7	+ 1.8
	19	α Canis Majoris		9	40 27.13	+ 0.75	− **32.77**	55 21 51.40	+ 3 45.85	+ 1 18.8	6 39 54.86	. .	106 33 17.2	− 2.2
	20	Sun I, N.		9	7 18.79	+ 0.31	− 33.09	16 1 47.75	+ 3 45.93	+ 15.7	7 6 46.01	+68.34	67 12 10.6	. .
	21	Sun II, S.		9	9 35.47	+ 0.31	− 33.09	16 31 51.00	+ 5 12.91	+ 16.2	7 9 2.69	−68.34	67 43 41.3	. .
	22	α Canis Minoris		9	33 38.27	+ 0.49	− **33.09**	33 17 58.88	+ 3 29.05	+ 35.7	7 33 5.61	. .	84 28 24.8	+ 2.0
	23	β Geminorum		6	38 36.61	+ 0.24	− **33.23**	10 29 49.10	+ 5 3.76	+ 10.1	7 38 3.68	. .	61 41 24.2	+ 2.4
E.	24	Venus II, N.		9	59 37.62	+ 0.33	− 33.96	21 51 52.28	+ 4 47.41	+ 22.2	3 59 3.99	− 0.88	73 3 23.1	. .
	25	γ Tauri		9	13 36.89	+ 0.34	− **32.97**	23 27 56.50	+ 4 55.27	+ 24.0	4 13 3.25	. .	74 39 37.0	+ 1.5
	26	ε Tauri		9	22 15.80	+ 0.31	− **34.04**	19 53 51.25	+ 4 32.50	+ 20.0	4 21 42.12	. .	71 5 5.0	+ 2.2
	27	α Tauri		9	29 41.10	+ 0.33	− **33.96**	22 31 50.72	+ 5 17.24	+ 22.9	4 29 7.44	. .	73 43 52.1	+ 2.3
	28	ι Aurigæ		9	49 50.61	+ 0.16	− **34.00**	5 49 52.12	+ 5 9.46	+ 5.7	4 49 16.76	. .	57 1 28.5	+ 1.1
	29	α Aurigæ		9	8 30.18	− 0.01	− 34.03	352 57 56.10	+ 3 24.43	− 6.7	5 7 56.14	. .	44 7 35.0	+ 1.1
	30	β Orionis		8	9 23.90	+ 0.60	− **34.07**	47 7 56.32	+ 5 4.69	+ 59.1	5 8 50.47	. .	98 20 21.3	+ 1.1
	31	Sun I, N.		9	11 25.73	+ 0.30	− 34.14	16 7 58.15	+ 4 25.90	+ 15.8	7 10 51.89	+68.36	67 19 1.0	. .
	32	Sun II, S.		9	13 42.46	+ 0.30	− 34.14	16 39 50.25	+ 4 3.36	+ 16.4	7 13 8.62	−68.37	67 50 31.2	. .
	33	α Hydræ		3	22 19.47	+ 0.61	− **34.24**	46 57 55.32	+ 3 36.90	+ 58.2	9 21 45.82	. .	98 8 51.6	+ 0.4
	34	ε Leonis		9	39 41.49	+ 0.28	− **34.32**	14 29 49.42	+ 4 28.88	+ 14.1	9 39 7.49	. .	65 40 53.6	+ 2.4
	35	α Leonis		9	2 37.68	+ 0.40	− **34.29**	26 16 . .	. .	. .	10 2 3.78	. .	77 27 . .	. .
	36	β Herculis		5	25 43.97	+ 0.20	− **34.55**	17 3 47.60	+ 4 33.24	+ 17.1	16 25 9.60	.	68 14 59.1	+ 1.0
	37	ζ Ophiuchi		7	31 14.41	+ 0.55	− **34.58**	49 7 58.38	+ 4 10.30	+ 1 4.0	16 30 40.39	. .	100 19 33.9	+ 0.4
	38	η Herculis		9	39 26.74	− 0.04	− **34.57**	359 39 50.00	+ 4 47.95	− 0.2	16 38 52.13	. .	50 50 59.0	+ 2.2
	39	Moon I		9	42 28.58	+ 0.72	− 34.57	62 28 . .	. .	. .	16 41 54.73	+74.34	112 48 . .	. .
	40	1 Aquilæ		9	29 22.13	+ 0.52	− **34.57**	47 7 57.85	+ 4 9.41	+ 1 0.1	18 28 48.07	. .	98 19 28.6	+ 1.4
	41	α Lyræ		9	33 32.70	− 0.04	− **34.58**	0 9 48.40	+ 3 17.39	+ 0.2	18 32 58.07	. .	51 19 27.2	+ 0.8
	42	51 Cephei, S. P.		6	44 37.83	+ 9.89	− 34.59	306 3 50.02	+ 4 41.61	− 1 16.2	6 44 13.13	. .	357 13 36.6	+ 2.6
	43	Lyræ		9	46 19.27	+ 0.03	− **34.53**	5 35 48.22	+ 4 5.15	+ 5.5	18 45 44.71	. .	56 46 20.1	− 0.3
	44	ζ Aquilæ		9	0 34.60	+ 0.26	− **34.60**	25 7 54.02	+ 3 55.58	+ 26.2	19 0 0.27	. .	76 18 37.0	+ 1.7
	45	δ Aquilæ		9	20 8.16	+ 0.38	− **34.66**	35 55 55.18	+ 4 9.79	+ 40.6	19 19 33.95	. .	87 7 6.8	+ 0.5
), S.	46	β Bootis		9	58 6.10	0.00	− **35.56**	357 57 59.08	+ 4 2.59	− 1.9	14 57 30.53	. .	49 8 21.0	+ 1.7
	47	48 Cephei, S. P.		9	5 53.96	+ 1.82	− 35.58	296 9 51.25	+ 3 17.77	− 1 52.1	3 5 20.20	. .	347 17 38.1	+ 2.4
	48	μ^1 Bootis		9	20 38.10	+ 0.04	− **35.58**	1 1 50.95	+ 4 2.86	+ 1.1	15 20 2.55	. .	52 12 16.1	+ 2.1
	49	B. A. C. 5150		9	31 25.04	+ 0.32	− 35.60	28 23 53.38	+ 4 46.73	+ 30.1	15 30 49.76	− 3.30	79 35 31.4	− 3.2
	50	B. VI + 52°, 1886		9	33 22.49	− 0.18	− 35.61	346 21 51.50	+ 4 21.09	− 13.4	15 32 46.70	− 2.66	37 32 20.4	+ 6.0

lo.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	29.99	89.1	90.5
2	30.02	78.8	77.3
5	30.02	78.3	77.0
7	30.01	77.7	76.6
6	30.02	77.4	76.2
7	30.10	82.1	82.6
1	30.07	86.1	87.0
4	30.00	77.8	77.9
0	30.04	81.8	82.0
2	30.02	84.6	84.8
5	30.02	87.5	87.0
8	30.06	79.5	76.9
5	30.10	75.5	73.0
7	30.13	78.8	76.8

For summary of the constants of reduction see page 3.

1, 7, 8, 12, 25, 27. Four bisections.
2, 5, 6. Five bisections.

ZENITH-POINT CORR.

	″
1	+ 38.76
2 to 16	+ 39.68
17 to 23	+ 39.37
24 to 34	+ 39.57
36 to 45	+ 39.31
46 to 50	+ 39.03

16. Barometer and thermometers read at $21^h.0$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
20	− 2.4	+ 15 45.4	. .	+ 15 43.0
21	− 2.5	− 15 45.3	. .	− 15 47.8
24	− 4.8	+ 12.7	. .	+ 7.9
31	− 2.4	+ 15 45.1	. .	+ 15 42.7
32	− 2.5	− 15 45.1	. .	− 15 47.6

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
July 9, S.	1	B. A. C. 5279		9	50 9.01	− 0.25	− 35.62	342 37 57.68	+ 5 9.76	− 17.3	15 49 33.14	− 2.67	33 49 11.3	+ 6.8
	2	B. A. C. 5316		9	56 20.37	− 0.15	− 35.63	348 35 55.25	+ 4 35.53	− 11.1	15 55 44.59	− 2.80	39 46 40.9	+ 6.2
	3	B. A. C. 5435[1]		6	12 39.47	+ 0.75	− 35.64	69 23 55.60	+ 4 8.27	+ 2 27.2	16 12 4.58	− 4.48	120 36 52.3	−10.6
	4	B. A. C. 5435[2]		5	12 40.53	+ 0.75	− 35.64	69 23 55.60	+ 4 26.32	+ 2 27.3	16 12 5.64	− 4.48	120 37 10.4	−10.6
	5	B. A. C. 5731 (R)			. . . .	. .	. .	172 7 55.38	+ 4 47.83	− 7.6	. . . .	. .	58 53 45.6	+ 5.4
	6	B. A. C. 5731			. . . .	. .	. .	7 43 52.38	+ 3 25.32	+ 7.6	16 56 . .	. .	58 53 46.5	+ 5.4
	7	*b* Ophiuchi		9	19 45.81	+ 0.66	**− 35.73**	62 51 52.98	+ 3 51.39	+ 1 48.6	17 19 10.76	. .	114 3 54.2	+ 0.8
	8	ω Draconis (R)			. . . .	. .	. .	209 49 49.45	+ 4 56.60	+ 32.1	. . . .	. .	21 11 3.7	− 1.3
	9	ω Draconis			. . . .	. .	. .	330 1 52.05	+ 3 26.70	− 32.1	17 38 . .	. .	21 11 7.9	+ 2.9
	10	Moon I, N.		9	49 19.73	+ 0.65	− 35.74	61 57 55.80	+ 4 3.71	+ 1 44.7	17 48 44.64	+75.19	113 10 5.4	. .
	11	γ^2 Sagittarii		9	58 49.62	+ 0.75	**35.69**	69 11 50.48	+ 4 46.11	+ 2 26.3	17 58 14.62	. .	120 25 24.1	− 0.4
	12	δ Ursæ Minoris		6	11 29.80	− 6.02	− 35.76	312 14 . .	. . . .	. .	18 10 48.02	. .	3 23 . .	. .
	13	α Lyræ		9	33 33.89	+ 0.01	**− 35.82**	0 9 49.52	+ 3 16.00	+ 0.2	18 32 58.12	. .	51 19 26.9	+ 0.8
	14	51 Cephei, S. P.		8	44 41.15	+ 7.92	− 35.79	306 3 51.82	+ 4 39.98	− 1 16.4	6 44 13.28	. .	357 13 36.6	+ 2.9
	15	ζ Aquilæ		9	0 35.82	+ 0.27	**− 35.82**	25 8 . .	. . . .	. .	19 0 0.29	. .	76 19 . .	. .
10, R.	16	ε Serpentis		9	45 33.23	+ 0.37	**− 37.05**	33 57 58.60	+ 4 54.40	+ 37.2	15 44 56.56	. .	85 9 51.4	+ 0.8
	17	ε Cor. Bor.		9	53 19.73	+ 0.15	**− 37.03**	11 35 53.45	+ 4 7.88	+ 11.4	15 52 42.83	. .	62 46 33.9	− 0.1
	18	B. A. C. 5356	7	9	2 39.10	+ 0.78	− 37.06	69 29 52.75	+ 5 34.49	+ 2 26.9	16 2 2.82	− 4.42	120 44 15.3	−11.8
	19	τ Herculis		9	16 50.01	− 0.11	**− 37.09**	352 13 52.02	+ 3 57.66	− 7.5	16 16 12.83	. .	43 24 3.4	+ 0.1
	20	η Draconis (R)			. . . .	. .	. .	202 47 55.82	+ 5 12.40	+ 23.3	. . . .	. .	28 12 49.7	− 0.4
	21	η Draconis		3	23 3.45	− 0.45	− 37.08	337 1 53.20	+ 5 0.80	− 23.3	16 22 25.92	. .	28 12 51.9	+ 1.8
	22	A Draconis		9	28 53.78	− 0.75	− 37.09	329 47 57.78	+ 4 34.04	− 32.0	16 28 15.94	. .	20 58 21.0	+ 1.2
	23	Cleopatra	12	9	39 47.58	+ 0.50	− 37.09	47 53 55.10	+ 4 39.72	+ 1 1.2	16 39 10.99	. .	99 5 57.2	− 2.9
	24	Weisse (2) 1941	6.8	9	2 4.46	+ 0.07	− 37.17	6 35 52.22	+ 4 16.93	+ 6.5	18 1 27.36	− 3.48	57 46 36.9	+ 8.0
	25	Anonymous	9.2	8	14 16.87	+ 0.57	− 37.19	55 1 51.22	+ 5 20.94	+ 1 19.4	18 13 40.25	− 4.40	106 14 52.8	+ 4.7
	26	Anonymous	9.5	7	14 24.75	+ 0.57	− 37.19	55 1 51.22	+ 4 11.94	+ 1 19.4	18 13 48.13	− 4.40	106 13 43.8	+ 4.8
	27	O. Arg. S. 18261	8.7	6	22 13.65	+ 0.69	− 37.19	65 25 57.58	+ 5 35.38	+ 2 1.3	18 21 37.15	− 4.75	116 39 55.5	+ 4.6
	28	O. Arg. S. 18262	7.3	5	22 13.73	+ 0.69	− 37.19	65 25 57.58	+ 4 52.60	+ 2 1.2	18 21 37.23	− 4.75	116 39 12.6	+ 4.6
	29	Lalande 34486	5	9	31 32.77	+ 0.32	− 37.20	32 15 53.82	+ 2 18.14	+ 35.1	18 30 55.89	− 3.90	83 25 8.3	+ 7.9
	30	51 Cephei, S. P.		8	44 42.74	+ 8.47	− 37.21	306 3 54.02	+ 4 36.45	− 1 15.9	6 44 14.00	. .	357 13 35.8	+ 2.4
	31	Moon I, N.		9	56 33.98	+ 0.62	− 37.23	59 55 55.32	+ 5 17.35	+ 1 36.0	18 55 57.37	+74.69	111 9 9.9	. .
	32	Lal. (F.) 3154	7.5	8	7 25.51	− 2.71	− 37.24	316 37 54.38	+ 4 43.19	− 52.4	19 6 45.56	− 4.82	7 48 6.4	+ 8.1
	33	Anonymous	11.5	9	18 18.10	+ 0.51	− 37.25	50 55 55.28	+ 5 59.04	+ 1 8.7	19 17 41.36	− 4.30	102 9 24.2	+10.9
	34	Elektra	11.5		. . . .	. .	. .	40 55 57.80	+ 4 55.93	+ 48.4	19 40 . .	. .	92 8 3.3	− 2.9
	35	λ Ursæ Minoris		5	44 30.20	−21.74	− 37.27	309 53 53.40	+ 4 0.88	− 1 6.3	19 43 31.19	. .	1 3 9.2	+ 1.7
	36	τ Aquilæ		9	59 0.48	+ 0.32	**− 37.25**	31 51 52.62	+ 4 24.46	+ 34.7	19 58 23.51	. .	83 3 13.0	+ 0.9
	37	α^2 Capricorni		9	12 8.20	+ 0.52	**− 37.40**	51 43 57.32	+ 3 2.50	+ 1 10.6	20 11 31.42	. .	102 54 31.6	+ 1.8
	38	γ Cygni		9	18 38.51	− 0.04	**− 37.26**	358 55 55.50	+ 5 0.24	− 1.0	20 18 1.17	. .	50 7 15.9	+ 1.0
	39	Comet *b* 1881, S. P.		9	28 6.29	+ 2.71	− 37.31	299 39 51.72	+ 4 20.55	− 1 37.2	8 27 31.69	. .	350 48 56.3	. .
	40	D. M. +80°, 281, S. P.	9.8	9	50 38.27	+ 2.71	− 37.33	299 39 51.45	+ 2 38.90	− 1 37.3	8 50 3.65	+ 0.34	350 47 14.3	+ 4.8
	41	61[1] Cygni		9	2 15.00	− 0.02	**− 37.32**	0 39 51.10	+ 3 41.98	+ 0.7	21 1 37.63	. .	51 49 55.0	+ 0.7
	42	61[2] Cygni		5	2 16.55	− 0.02	− 37.35	0 39 51.10	+ 3 52.03	+ 0.7	21 1 39.18	− 3.66	51 50 5.0	+10.5
W.	43	α Aurigæ		9	8 34.66	− 0.01	− 38.43	352 58 0.02	+ 3 21.81	− 6.7	5 7 56.22	. .	44 7 36.3	+ 2.2
	44	δ Orionis		4	26 35.02	+ 0.56	**− 38.46**	39 12 . .	. . . .	. .	5 25 57.13	. .	90 23 . .	. .
	45	ε Orionis		9	30 49.80	+ 0.57	**− 38.41**	40 5 59.45	+ 3 37.73	+ 46.0	5 30 11.91	. .	91 16 44.4	+ 1.8
	46	α Orionis			. . . .	. .	. .	31 25 58.30	+ 4 9.05	+ 33.4	5 49 . .	. .	82 37 2.0	+ 2.5
	47	α Canis Majoris		9	40 32.96	+ 0.78	**− 38.58**	55 21 54.40	+ 3 48.35	+ 1 18.4	6 39 55.20	. .	106 33 22.4	+ 3.8
11	48	Sun I, N.		9	23 45.16	+ 0.35	− 38.59	16 31 51.35	+ 3 22.27	+ 16.1	7 23 6.92	+68.20	67 41 50.9	. .
	49	Sun II, S.		9	26 1.56	+ 0.35	− 38.59	17 1 51.50	+ 4 52.79	+ 16.6	7 25 23.32	−68.20	68 13 22.1	. .
	50	Moon N.			. . . .	. .	. .	56 18 19.45	+ 5 20.79	+ 1 22.7	20 2 . .	. .	107 31 24.1	. .

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
9	30.17	76.2	74.5
15	30.17	76.0	73.1
16	30.10	82.2	80.0
23	30.10	80.4	78.3
24	30.08	77.9	76.1
30	30.08	77.3	75.2
37	30.07	75.5	73.5
42	30.05	74 8	73.2
43	30.06	81.9	81.8
46	30.05	84.0	85.3
49	30.05	88.2	89.8

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

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14, 17. One bisection. 1 to 14 + 39.03

10, 22, 30, 50. Three bisections. 16 to 42 + 38.34

16, 31, 35, 43. Four bisections. 43 to 49 + 38.20

32, 39, 40. Five bisections. 50 + 38.24

23. Barometer and thermometers read at 16h 53m.

42. Barometer and thermometers read at 21h 22m.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
10	−53 30.8	+ 16 35.1	. .	− 36 55.7
31	−52 52.3	+ 16 42.2	. .	− 36 10.1
48	− 2.5	+ 15 45.6	. .	+ 15 43.1
49	− 2.5	− 15 45.6	. .	− 15 48.1
50	−50 55.2	+ 16 44.6	. .	− 34 10.6

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
July 11, W.	1	Comet *b* 1881, S. P.	.	9	47 2.22	+ 3.84	− 39.51	300 6 . .	. .	. .	8 46 26.55	. .	351 17 . .	. .
	2	61¹ Cygni . . .	.	3	2 17.12	+ 0.01	− **39.45**	0 39 51.40	+ 3 39.89	+ 0.7	21 1 37.61	. .	51 49 53.2	− 0.8
	3	ζ Cygni . . .	.	3	8 35.39	+ 0.13	− **39.54**	9 3 51.45	+ 5 5.00	+ 8.9	21 7 55.99	. .	60 15 26.5	+ 0.4
	4	α Cephei . . .	.	9	16 28.42	− 0.56	− 39.54	336 43 55.80	+ 5 6.97	− 23.6	21 15 48.32	. .	27 55 0.4	+ 1.4
	5	β Aquarii . . .	.	9	26 0.60	+ 0.56	− **39.61**	44 53 55.08	+ 4 7.06	+ 55.1	21 25 21.61	. .	96 5 18.4	− 0.7
	6	ξ Aquarii . . .	.	9	32 7.93	+ 0.59	− **39.60**	47 11 52.20	+ 3 40.81	+ 59.7	21 31 28.96	. .	98 22 53.9	+ 0.1
	7	ε Pegasi . . .	.	9	39 3.36	+ 0.38	− **39.52**	29 29 53.20	+ 3 8.95	+ 31.3	21 38 24.17	. .	80 39 54.7	− 0.5
13, R.	8	Venus II, N. .	.	9	22 2.52	+ 0.38	− 44.10	20 43 51.95	+ 3 51.36	+ 20.9	4 21 18.80	− 0.83	71 54 25.4	. .
	9	α Tauri . . .	.	9	29 51.26	+ 0.41	− **44.05**	22 31 53.18	+ 5 14.03	+ 22.9	4 29 7.56	. .	73 43 51.3	+ 2.0
	10	α Aurigæ . . .	.	9	8 40.52	− 0.03	− 44.15	352 57 54.22	+ 3 27.25	− 6.7	5 7 56.34	. .	44 7 36.0	+ 1.7
	11	β Orionis . . .	.	6	9 34.08	+ 0.72	− **44.24**	47 7 58.50	+ 4 59.03	+ 59.3	5 8 50.64	. .	98 20 18.0	− 1.1
	12	δ Orionis . . .	.	7	26 40.69	+ 0.62	− **44.12**	39 11 52.35	+ 4 18.19	+ 44.8	5 25 57.14	. .	90 23 16.5	+ 0.9
	13	α Orionis . . .	.	3	49 29.02	+ 0.52	− **44,14**	31 25 57.42	+ 4 9.23	+ 33.6	5 48 45.34	. .	82 37 1.4	+ 2.2
	14	γ Geminorum . .	.	8	31 35.84	+ 0.43	− **44.33**	22 17 53.02	+ 5 30.04	+ 22.5	6 30 52.03	. .	73 30 6.8	+ 1.4
14	15	Sun I, S . .	.	9	36 1.98	+ 0.37	− 44.31	17 27 56.72	+ 5 1.27	+ 17.2	7 35 18.04	+67.96	68 39 36.4	. .
	16	Sun II, N. . .	.	9	38 17.92	+ 0.37	− 44.32	16 55 53.00	+ 5 32.90	+ 16.6	7 37 33.97	−67.97	68 8 3.7	. .
	17	ι Ursæ Majoris .	.	5	51 49.53	− 0.05	− 44.40	350 19 50.10	+ 3 35.53	− 9.2	8 51 5.08	. .	41 29 37.6	− 0.9
	18	α Hydræ . . .	.	9	22 29.59	+ 0.74	− **44.49**	46 57 56.62	+ 3 35.43	+ 57.9	9 21 45.90	. .	98 8 51.1	+ 0.6
	19	ε Leonis . . .	.	9	39 51.49	+ 0.34	− **44.39**	14 29 48.48	+ 4 28.99	+ 14.0	9 39 7.38	. .	65 40 52.7	+ 1.2
	20	α Leonis . . .	.	9	2 47.78	+ 0.50	− **44.50**	26 15 52.60	+ 4 38.54	+ 26.7	10 2 3.81	. .	77 27 19.0	+ 1.7
	21	γ¹ Leonis . . .	.	9	14 10.51	+ 0.40	− **44.46**	18 21 50.58	+ 5 7.35	+ 18.0	10 13 26.42	. .	69 33 37.1	+ 2.2
	22	β Libræ . . .	.	9	11 23.87	+ 0.72	− **44.83**	47 43 53.45	+ 5 28.76	+ 1 0.3	15 10 39.83	. .	98 56 43.7	− 0.5
	23	μ¹ Bootis . . .	.	9	20 47.09	+ 0.10	− **44.70**	1 1 49.85	+ 4 2.72	+ 1.1	15 20 2.42	. .	52 12 14.9	+ 1.6
	24	B. A. C. 5150 .	5.8	9	31 34.12	+ 0.47	− 44.78	28 23 52.72	+ 4 47.28	+ 29.8	15 30 49.81	− 3.26	79 35 31.0	− 2.6
	25	B.VI + 52°, 1886	7.2	9	33 31.74	− 0.22	− 44.79	346 21 49.60	+ 4 21.35	− 13.2	15 32 46.73	− 2.54	37 32 19.0	+ 6.8
	26	ε Serpentis . .	.	9	45 40.79	+ 0.53	− **44.80**	33 57 56.62	+ 4 55.72	+ 37.1	15 44 56.52	. .	85 9 50.6	+ 0.4
	27	B. A. C. 5352 .	8	9	56 42.31	− 4.11	− 44.82	315 31 50.80	+ 4 19.25	− 53.8	15 55 53.38	− 0.45	6 41 37.4	+ 9.1
	28	B. A. C. 5356 .	7.2	8	2 46.59	+ 1.05	− 44.83	69 29 52.12	+ 5 35.78	+ 2 26.6	16 2 2.81	− 4.39	120 44 15.7	−11.9
	29	τ Herculis . .	.	9	16 57.60	− 0.10	− 44.84	352 13 50.72	+ 3 58.90	− 7.5	16 16 12.66	. .	43 24 3.3	+ 0.8
	30	A Draconis (R) .	.	.	. . .	. .	. .	210 1 49.62	+ 5 41.69	+ 32.0	. . . .	. .	20 58 17.9	− 1.0
	31	A Draconis. . .	.	6	29 1.74	− 0.97	− 44.86	329 47 56.00	+ 4 35.20	− 32.0	16 28 15.91	. .	20 58 20.4	+ 1.5
	32	Cleopatra . .	11	9	38 5.03	+ 0.70	− 44.87	47 53 55.55	+ 4 11.67	+ 1 1.1	16 37 20.86	. .	99 5 29.5	− 2.8
	33	B. A. C. 5694 .	7.4	9	50 4.81	+ 1.05	− 44.89	70 55 54.02	+ 3 58.06	+ 2 38.7	16 49 20.97	− 4.72	122 8 52.0	− 7.1
	34	ε Ursæ Minoris .	.	9	59 3.32	− 3.59	− 44.90	316 36 . .	. .	. .	16 58 14.83	. .	7 46 . .	. .
	35	Weisse (2) 114 .	5.8	9	6 29.88	0.00	− 44.91	357 53 53.30	+ 4 5.07	− 2.0	17 5 44.97	− 3.16	49 4 17.6	+ 8.1
	36	B. A. C. 5833 .	7.0	9	12 24.87	+ 1.03	− 44.92	69 59 49.00	+ 5 20.00	+ 2 31.1	17 11 40.98	− 4.78	121 14 1.3	− 4.3
	37	Weisse (2) 405 .	6.7	9	16 6.91	+ 0.24	− 44.92	13 9 47.70	+ 3 57.78	+ 13.0	17 15 22.23	− 3.42	64 20 19.7	+ 6.5
	38	Anonymous . .	9.3	9	23 42.99	+ 0.90	− 44.93	62 39 47.90	+ 8 32.82	+ 1 47.1	17 22 58.96	− 4.54	113 56 29.0	− 1.7
	39	B. A. C. 5957 .	.	9	32 40.79	+ 1.05	− 44.94	71 1 52.20	− 4 10.05	+ 2 39.9	17 31 56.90	− 4.89	122 15 3.3	− 2.1
	40	Lalande 32322 .	7.5	9	36 24.54	+ 0.06	− 44.95	1 31 48.15	+ 5 11.13	+ 1.6	17 35 39.65	− 3.33	52 43 22.1	+ 8.7
	41	B. A. C. 6029 .	6.4	9	45 6.56	+ 1.10	− 44.96	73 29 50.45	+ 6 38.43	+ 3 5.4	17 44 22.70	− 5.05	124 45 55.5	− 1.0
	42	B. A. C. 6037 .	6.2	9	46 12.72	+ 1.10	− 44.96	73 29 50.45	+ 2 45.52	+ 3 4.7	17 45 28.86	− 5.05	124 42 1.9	− 0.9
	43	B. A. C. 6103 .	.	9	57 38.71	+ 1.13	− 44.97	74 43 52.20	+ 0 38.01	+ 3 19.6	17 56 54.87	− 5.14	125 54 11.0	+ 0.4
	44	B. A. C. 6117 .	.	9	59 10.43	+ 1.13	− 44.98	74 43 52.20	+ 8 1.90	+ 3 21.2	17 58 26.58	− 5.14	126 1 36.5	+ 0.6
	45	Lilæa (?) . .	12.5	9	9 19.89	+ 0.83	− 44.99	57 55 54.55	+ 5 50.42	+ 1 28.4	18 8 35.73	. .	109 9 34.6	− 5.4
	46	Lalande 33851 .	5.8	9	3 25.47	+ 0.36	− 45.06	22 7 55.45	+ 4 34.17	+ 22.7	19 2 40.77	− 3.80	73 19 13.5	+10.8
	47	Lalande 36282 .	.	9	11 35.97	+ 0.18	− 45.07	8 29 48.38	+ 4 22.60	+ 8.4	19 10 51.08	− 3.66	59 40 40.6	+11.1
	48	Anonymous . .	12	9	15 52.29	+ 0.73	− 45.08	50 57 55.78	+ 5 5.78	+ 1 8.6	19 15 7.94	− 4.34	102 10 31.4	+11.0
	49	Lalande 36867 . .	.	9	24 42.68	+ 0.39	− 45.09	24 27 57.18	+ 3 57.86	+ 25.4	19 23 57.98	− 3.85	75 38 41.6	+11.8
	50	Elektra . . .	10.5	9	37 25.99	+ 0.60	− 45.10	41 21 49.08	+ 6 5.25	+ 49.1	19 36 41.49	. .	92 35 4.6	− 2.9

No.	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*	No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°			′ ″	′ ″	′ ″	′ ″
1	30.00	78.8	77.3		8	− 4.3	+ 11.8	. .	+ 7.5
7	29.99	78.2	76.4	ZENITH-POINT CORR.	15	− 2.6	− 15 46.3	. .	− 15 48.9
8	30.10	81.4	81.5	″	16	− 2.5	+ 15 46.3	. .	+ 15 43.8
10	30.10	81.7	81.5						
13	30.12	83.4	83.6	2, 17, 47. One bisection. 2 to 7 + 38.24					
14	30.12	84.7	85.7	27. Three bisections. 8 to 21 + 38.56					
16	30.11	86.2	87.7	8, 20, 21. Four bisections. 22 to 50 + 38.35					
17	30.08	88.8	89.5	34. Five bisections.					
19	30.09	90.3	90.1						
21	30.08	91.0	90.5						
22	30.05	83.1	82.6						
29	30.06	80.4	79.2	14. Barometer and thermometers read at 6^h 45^m.					
34	30.07	79.5	78.0	45. Barometer and thermometers read at 18^h 25^m.					
45	30.07	77.3	76.6						

Date and Obs'r.	Number.	Object.	Magnitude.	Threads.	Mean Thread.	Corrections. Inst.	Corrections. Clock.	Zenith Dist. South, from Circles.	Corrections. Instrument.	Corrections. Refraction.	Apparent Right Ascension.	Miscellaneous Correction.	Apparent North-Polar Distance.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
July 14, R.	1	λ Ursæ Minoris	.	5	44 44.06	−29.78	−45.11	309 53 51.85	+ 4 1.68	− 1 6.3	19 43 29.17	. .	1 3 8.4	+ 2.2
	2	a^2 Capricorni	.	9	12 15.87	+ 0.74	**−45.22**	51 43 53.45	+ 3 5.25	+ 1 10.6	20 11 31.46	. .	102 54 30.5	+ 1.1
	3	γ Cygni	.	9	18 46.26	+ 0.02	**−45.02**	358 55 52.95	+ 5 1.71	− 1.0	20 18 1.12	. .	50 7 14.9	+ 1.3
	4	π Capricorni	.	9	21 19.23	+ 0.82	**−45.10**	57 23 50.08	+ 4 8.50	+ 1 27.1	20 20 34.89	. .	108 35 46.9	+ 1.1
	5	ν Cygni	.	9	53 33.20	+ 0.01	**−45.25**	358 5 53.05	+ 5 4.67	− 1.8	20 52 48.00	. .	49 17 17.1	+ 3.0
	6	61[1] Cygni	.	9	2 22.98	+ 0.05	**−45.30**	0 39 48.38	+ 3 45.41	+ 0.7	21 1 37.81	. .	51 49 55.7	+ 2.7
	7	α Cephei (R)	.	.	. . . .	. .	. .	203 5 50.60	+ 5 9.63	+ 23.8	. . . .	. .	27 54 57.2	− 0.6
	8	α Cephei	.	.	. . . .	. .	. .	336 43 53.65	+ 5 8.68	− 23.8	21 16 . .	. .	27 54 59.7	+ 1.9
15, W.	9	κ Aquilæ	.	9	31 19.89	+ 0.59	**−46.91**	46 5 55.42	+ 4 0.67	+ 58.2	19 30 33.67	. .	97 17 15.5	+ 1.1
	10	γ Aquilæ	.	9	41 26.53	+ 0.41	**−46.88**	28 29 52.22	+ 3 38.35	+ 30.4	19 40 40.11	. .	79 40 22.2	+ 2.4
	11	λ Ursæ Minoris	.	6	44 39.47	−23.54	−46.84	309 53 53.72	+ 3 55.56	− 1 6.6	19 43 29.09	. .	1 3 3.9	− 2.0
	12	τ Aquilæ	.	9	59 9.96	+ 0.44	**−46.80**	31 51 52.38	+ 4 25.55	+ 34.8	19 58 23.54	. .	83 3 13.9	+ 2.8
	13	Lalande 38554	.	9	3 48.14	+ 0.40	−46.87	28 28 0.50	+ 2 9.20	+ 30.4	20 3 1.67	− 3.92	79 37 1.3	+14.0
	14	B. A. C. 6977	.	9	12 53.02	+ 0.88	−46.89	68 48 0.40	+ 2 38.66	+ 2 23.4	20 12 7.01	− 4.79	119 59 23.7	+16.6
	15	γ Cygni	.	9	18 48.02	+ 0.06	**−46.81**	358 55 55.05	+ 4 59.59	− 1.0	20 18 1.18	. .	50 7 14.8	+ 1.5
	16	B. A. C. 7060	.	9	23 28.12	− 0.34	−46.91	339 38 0.10	+ 3 11.83	− 20.7	20 22 40.87	− 3.84	30 47 12.4	+10.0
	17	B. A. C. 7286	.	9	55 40.04	+ 1.04	−46.97	77 48 0.30	+ 0 37.21	+ 4 12.7	20 54 54.11	− 4.96	128 59 11.4	+21.4
	18	Lalande 40951	.	9	2 21.22	+ 0.18	−46.98	8 8 . .	. .	. .	21 1 34.42	− 3.75	59 17 . .	. .
	19	B. A. C. 7353	.	9	6 16.97	+ 1.06	−46.99	78 37 56.75	+ 5 16.50	+ 4 32.5	21 5 31.04	− 4.93	129 54 6.9	+22.5
	20	β Aquarii	.	9	26 8.07	+ 0.58	**−47.02**	44 53 55.18	+ 4 8.15	+ 55.9	21 25 21.63	. .	96 5 20.4	+ 2.0
	21	ξ Aquarii	.	9	32 15.46	+ 0.59	**−47.04**	47 11 52.08	+ 3 40.81	+ 1 0.5	21 31 29.02	. .	98 22 54.6	+ 1.4
	22	ε Pegasi	.	9	39 10.93	+ 0.41	**−47.04**	29 29 51.85	+ 3 11.09	+ 31.8	21 38 25.29	. .	80 39 55.9	+ 1.6
	23	Comet *b* 1881, S. P.	.	9	3 39.78	+ 3.58	−47.09	301 3 56.40	+ 4 14.54	− 1 32.4	10 2 56.27	. .	352 12 59.7	. .
	24	Carrington 1547, S. P.	.	9	19 15.61	+ 3.58	−47.12	301 3 56.40	+ 4 8.51	− 1 32.5	10 18 32.07	+ 1.94	352 12 53.6	+ 3.2
	25	226 Cephei (R)	.	.	. . . .	. .	. .	216 37 54.60	+ 4 37.99	+ 41.8	. . . .	. .	14 23 6.8	− 1.2
	26	226 Cephei	.	6	31 4.94	− 1.36	−47.14	323 13 51.82	+ 3 38.64	− 41.8	22 30 16.44	. .	14 23 9.9	+ 1.9
E.	27	Venus II, N.	.	9	30 8.54	+ 0.33	−47.38	20 21 51.18	+ 4 7.25	+ 20.6	4 29 21.49	− 0.81	71 32 40.2	. .
	28	α Aurigæ	.	9	8 43.76	+ 0.03	−47.42	352 57 58.65	+ 3 22.00	− 6.7	5 7 56.37	. .	44 7 35.1	+ 0.6
	29	β Orionis	.	8	9 37.48	+ 0.60	**−47.48**	47 8 0.60	+ 4 58.92	+ 59.5	5 8 50.66	. .	98 20 20.2	+ 1.5
	30	β Tauri	.	9	19 35.51	+ 0.24	**−47.44**	10 17 57.65	+ 5 15.57	+ 10.1	5 18 48.32	. .	61 29 44.5	+ 1.9
	31	δ Orionis	.	5	26 44.08	+ 0.52	**−47.37**	39 12 . .	. .	. .	5 25 57.16	. .	90 23 . .	. .
16	32	Sun I, S.	.	9	44 10.21	+ 0.34	−47.59	17 47 57.20	+ 4 20.04	+ 17.5	7 43 22.96	+67.90	68 58 55.9	. .
	33	Sun II, N.	.	9	46 26.01	+ 0.34	−47.59	17 15 53.25	+ 4 53.71	+ 17.0	7 45 38.76	−67.90	68 27 25.2	. .
	34	γ Aquilæ	.	9	41 28.09	+ 0.38	**−48.40**	28 29 52.25	+ 3 38.61	+ 30.0	19 40 40.12	. .	79 40 22.1	+ 2.5
	35	λ Ursæ Minoris	.	4	44 38.25	−20.87	−48.35	309 54 . .	. .	. .	19 43 29.03	. .	1 3 . .	. .
	36	β Aquilæ	.	9	50 20.03	+ 0.41	**−48.37**	32 41 53.05	+ 4 20.46	+ 35.5	19 49 32.08	. .	83 53 10.2	+ 1.3
	37	Lalande 38554	.	8	3 49.79	+ 0.37	−48.38	28 27 57.68	+ 2 10.66	+ 29.9	20 3 1.78	− 3.93	79 36 59.4	+14.2
	38	a^2 Capricorni	.	9	12 19.28	+ 0.61	**−48.47**	51 43 52.72	+ 3 6.09	+ 1 9.9	20 11 31.51	. .	102 54 29.9	+ 0.6
	39	Weisse 302	.	8	14 46.07	+ 0.35	−48.39	25 57 56.20	+ 4 20.62	+ 26.9	20 13 58.03	− 3.90	77 9 4.9	+14.5
	40	γ Cygni	.	9	18 49.53	+ 0.05	**−48.30**	358 55 53.20	+ 5 1.05	− 0.9	20 18 1.19	. .	50 7 14.5	+ 1.5
	41	B. A. C. 7219	.	9	44 8.26	− 0.03	−48.42	353 41 51.78	+ 3 8.45	− 6.0	20 43 19.81	− 3.76	44 51 15.4	+11.6
	42	Weisse (2) 1483	.	9	47 53.78	+ 0.30	−48.42	21 15 52.25	+ 2 21.52	+ 21.5	20 47 5.66	− 3.84	72 24 56.5	+15.1
	43	B. A. C. 7280	.	9	54 51.81	+ 0.87	−48.43	71 29 52.92	+ 4 1.46	+ 2 43.5	20 54 4.25	− 4.73	122 42 59.1	+20.9
	44	Lalande 40951	.	8	2 22.82	+ 0.16	−48.44	8 7 54.68	+ 2 55.27	+ 7.9	21 1 34.54	− 3.77	59 17 19.1	+13.5
	45	Comet *b* 1881, S. P.	.	5	21 38.47	+ 3.20	−48.52	301 8 4.38	+ 3 52.65	− 1 30.6	10 20 53.15	. .	352 16 47.6	. .
	46	ζ Pegasi	.	9	36 23.42	+ 0.37	**−48.49**	28 35 56.28	+ 4 17.88	+ 30.1	22 35 35.25	. .	79 47 5.5	+ 1.9
17, R.	47	Venus II, N.	.	9	38 22.69	+ 0.22	−50.36	19 59 53.65	+ 5 9.41	+ 20.3	4 37 32.55	− 0.81	71 11 44.6	. .
	48	ι Aurigæ	.	9	50 7.20	+ 0.12	**−50.26**	5 49 54.50	+ 5 6.51	+ 5.8	4 49 16.95	. .	57 1 28.0	+ 0.6
	49	α Aurigæ	.	8	8 46.75	0.00	−50.38	352 57 59.80	+ 3 21.02	− 6.8	5 7 56.37	. .	44 7 35.2	+ 0.6
	50	β Orionis	.	9	9 40.69	+ 0.41	**−50.45**	47 8 1.92	+ 4 56.22	+ 59.9	5 8 50.72	. .	98 20 19.2	+ 0.8

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.07	75.7	74.4
4	30.07	75.1	73.8
6	30.07	75.6	73.8
9	30.11	74.0	72.7
26	30.08	72.2	70.8
27	30.08	77.3	78.0
33	30.05	84.7	86.2
35	29.84	77.0	75.5
44	29.82	75.5	75.0
46	29.80	76.5	75.5
47	29.84	71.2	70.8

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

		″
7, 42. One bisection.	1 to 8	+ 38.35
9, 24, 27, 47, 48. Four bisections.	9 to 26	+ 38.80
1, 23, 45. Five bisections.	27 to 33	+ 38.48
	34 to 46	+ 38.72
	47 to 50	+ 37.69

44. Barometer and thermometers read at $21^h\ 48^m$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
27	− 4.1	+ 11.6	. .	+ 7.5
32	− 2.7	− 15 45.3	. .	− 15 48.0
33	− 2.6	+ 15 45.3	. .	+ 15 42.7
47	− 4.0	+ 11.4	. .	+ 7.4

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
July 17, R.	1	β Tauri . . .	.	9	19 38.56	+ 0.16	— **50.36**	10 17 58.85	+ 5 12.46	+ 10.2	5 18 48.33	. .	61 29 42.7	+ 0.1
	2	δ Orionis . . .	.	9	26 47.33	+ 0.37	— **50.43**	39 11 54.68	+ 4 16.43	+ 45.3	5 25 57.31	. .	90 23 17.6	+ 2.6
	3	ε Orionis . . .	.	9	31 2.16	+ 0.37	— **50.42**	40 5 57.10	+ 3 37.66	+ 46.7	5 30 12.14	. .	91 16 42.7	+ 1.2
	4	α Orionis (R) . .	.	.	. . . .	. .	. .	148 25 59.92	+ 3 56.30	— 33.8	. . . .	. .	82 36 58.8	0.0
	5	α Orionis . . .	.	.	. . . .	. .	. .	31 26 1.15	+ 4 3.77	+ 33.8	5 49 . .	. .	82 36 59.9	+ 1.1
	6	δ Ursæ Min., S. P.	.	6	11 32.53	+ 4.34	— 50.42	305 25 55.92	+ 5 44.72	— 1 17.1	18 10 46.45	. .	356 36 44.7	— 0.1
18	7	Sun I, S. . .	.	9	52 16.24	+ 0.24	— 50.48	18 8 1.38	+ 5 3.43	+ 18.0	7 51 26.00	+67.68	69 19 44.0	. .
	8	Sun N. . . .	.	.	. . . .	. .	. .	17 35 57.35	+ 5 34.54	+ 17.4	. . . .	. .	68 48 10.5	. .
	9	α Leonis . . .	.	9	2 54.01	+ 0.31	— **50.55**	26 15 55.28	+ 4 36.56	+ 26.9	10 2 3.77	. .	77 27 19.9	+ 2.6
	10	B. A. C. 5938 .	.	9	30 9.24	+ 0.44	— 50.97	70 51 53.52	+ 2 8 14	+ 2 39.0	17 29 18.71	— 4.87	122 3 1.9	— 2.5
	11	O. Arg. N. 17522	7.0	9	45 41.82	0.00	— 50.98	351 11 51.65	+ 4 19.90	— 8.5	17 44 50.84	— 3.19	42 22 24.3	+10.8
	12	Weisse (2) 1719	6.8	9	55 27.63	+ 0.06	— 50.99	2 31 52.40	+ 3 36.87	+ 2.5	17 54 36.70	— 3.38	53 41 53.0	+10.2
	13	γ² Sagittarii . . .	.	9	59 5.26	+ 0.43	— **50.98**	69 11 55.40	+ 4 41.02	+ 2 25.9	17 58 14.69	. .	120 25 23.5	— 1.4
	14	μ Sagittarii . .	.	9	7 34.01	+ 0.36	— **51.00**	59 53 54.58	+ 3 22.09	+ 1 35.9	18 6 43.37	. .	111 5 13.8	— 0.9
	15	δ Ursæ Minoris .	.	6	11 40.85	— 2.18	— 51.01	312 13 53.20	+ 4 2.74	— 1 1.1	18 10 47.66	. .	3 23 16.0	+ 1.0
	16	Piazzi XVIII, 90	6.8	6	26 6.41	+ 0.49	— 51.02	77 33 56.42	+ 3 51.70	+ 4 8.1	18 25 15.88	— 5.35	128 48 17.4	+ 3.3
	17	Piazzi XVIII, 89	5.5	5	26 6.48	+ 0.49	— 51.02	77 33 56.42	+ 4 10.03	+ 4 8.1	18 25 15.95	— 5.35	128 48 35.8	+ 3.3
	18	B. A. C. 6378 .	5.7	9	40 21.29	+ 0.51	— 51.04	79 15 57.20	+ 4 42.12	+ 4 47.1	18 39 30.76	— 5.47	130 31 47.6	+ 5.0
	19	51 Cephei, S. P. .	.	5	45 3.88	+ 2.92	— 51.04	306 3 56.25	+ 4 31.69	— 1 16.2	6 44 15.76	. .	357 13 32.9	+ 1.9
	20	Lalande 35421 .	6.3	9	53 51.63	+ 0.14	— 51.05	21 37 57.80	+ 3 1.23	+ 22.2	18 53 0.72	— 3.80	72 47 42.4	+11.2
	21	ζ Aquilæ . . .	.	9	0 51.22	+ 0.16	— **51.07**	25 8 1.02	+ 3 46.12	+ 26.3	19 0 0.33	. .	76 18 34.6	+ 1.4
	22	δ Draconis (R) .	.	.	. . . .	. .	. .	208 27 59.60	+ 5 11.25	+ 30.4	. . . .	. .	22 32 40.0	— 0.5
	23	δ Draconis . . .	.	7	13 26.54	— 0.22	— 51.07	331 21 52.35	+ 4 58.13	— 30.4	19 12 35.25	. .	22 32 41.3	+ 0.8
	24	Elektra . . .	11.0	9	34 23.06	+ 0.24	— 51.09	41 51 52.28	+ 5 50.77	+ 50.2	19 33 32.21	. .	93 4 54.4	— 3.0
	25	λ Ursæ Minoris .	.	5	44 26.54	— 7.62	— 51.09	309 53 51.48	+ 4 0.72	— 1 6.6	19 43 27.83	. .	1 3 6.8	+ 1.9
	26	Anonymous . .	10.5	3	0 14.62	+ 0.29	— 51.11	50 31 53.65	+ 7 40.81	+ 1 8.1	19 59 23.80	— 4.34	101 47 3.8	+15.0
	27	61¹ Cygni . . .	.	9	2 28.96	+ 0.04	— **51.20**	0 39 52.88	+ 3 37.97	+ 0.7	21 1 37.83	. .	51 49 52.7	+ 1.0
	28	Astræa . . .	11.5	9	8 52.13	+ 0.31	— 51.18	53 29 51.82	+ 5 27.61	+ 1 15.7	21 8 1.26	. .	104 42 56.3	— 3.4
	29	1 Draconis, S. P. .	.	9	20 49.34	+ 1.09	— 51.19	300 41 55.22	+ 4 12.80	— 1 33.8	9 19 59.24	. .	351 50 55.4	+ 1.2
	30	O. Arg. N. 22436	5.8	9	29 39.58	— 0.04	— 51.20	349 25 59.25	+ 0 40.87	— 10.4	21 28 48.34	— 3.89	40 32 50.9	+11.1
	31	ε Pegasi . . .	.	9	39 15.34	+ 0.17	— **51.15**	29 29 53.90	+ 3 7.90	+ 31.8	21 38 24.30	. .	80 39 54.8	+ 1.1
	32	μ Capricorni . .	.	9	47 43.48	+ 0.29	— **51.24**	52 53 58.32	+ 4 44.84	+ 1 14.2	21 46 52.56	. .	104 6 18.6	+ 0.7
	33	79 Draconis . .	.	9	52 19.67	— 0.38	— 51.22	325 41 55.08	+ 3 54.80	— 38.2	21 51 28.07	. .	16 51 32.9	+ 2.0
	34	π Aquarii (R) . .	.	.	. . . .	. .	. .	141 49 53.00	+ 3 59.18	— 44.0	. . . .	. .	89 13 13.0	+ 0.3
	35	π Aquarii . . .	.	.	. . . .	. .	. .	38 1 56.58	+ 4 12.61	+ 44.0	22 19 . .	. .	89 13 14.4	+ 1.7
	36	226 Cephei . . .	.	9	31 7.92	— 0.48	— 51.25	323 13 53.40	+ 3 35.94	— 41.9	22 30 16.19	. .	14 23 8.6	+ 1.5
	37	Comet *b* 1881, S. P.	.	9	54 47.09	+ 1.19	— 51.27	301 5 58.75	+ 5 3.57	— 1 32.5	10 53 57.01	. .	352 15 51.0	. .
	38	32² Camelop., S. P. .	.	9	49 2.22	+ 1.60	— 51.37	302 53 54.92	+ 4 50.12	— 1 26.7	12 48 12.45	. .	354 3 39.5	+ 1.7
	39	β Andromedæ . .	.	9	3 58.97	+ 0.04	— **51.29**	3 49 52.42	+ 4 14.36	+ 3.8	1 3 7.63	. .	55 0 31.8	+ 1.3
	40	Polaris . . .	.	8	16 36.80	— 6.58	— 51.40	310 9 53.78	+ 4 29.31	— 1 6.6	1 15 38.82	. .	1 19 37.7	+ 2.1
	41	η Piscium . . .	.	9	26 1.27	+ 0.15	— **51.40**	24 3 56.20	+ 5 10.08	+ 25.3	1 25 10.01	. .	75 15 52.8	+ 2.0
	42	ο Piscium . . .	.	9	40 0.79	+ 0.18	— **51.46**	30 15 58.45	+ 3 22.58	+ 33.0	1 39 9.55	. .	81 26 15.2	+ 0.5
	43	β Arietis . . .	.	9	48 58.33	+ 0.12	— **51.41**	18 35 57.95	+ 3 38.38	+ 19.1	1 48 7.03	. .	69 46 16.6	+ 0.5
	44	Moon II, N. .	.	9	36 29.88	+ 0.13	— 51.47	20 31 55.22	+ 5 20.32	+ 21.2	2 35 38.54	—67.16	71 43 57.9	. .
	45	α Ceti	.	9	56 57.31	+ 0.20	— **51.55**	35 11 56.20	+ 3 31.46	+ 39.6	2 56 6.03	. .	86 22 28.5	+ 1.2
W.	46	β Tauri . . .	.	9	19 40.22	+ 0.12	— **51.95**	10 18 1.62	+ 5 11.09	+ 10.1	5 18 48.38	. .	61 29 44.0	+ 1.4
	47	δ Orionis . . .	.	9	26 49.02	+ 0.25	— **51.98**	39 11 56.40	+ 4 12.85	+ 45.0	5 25 57.30	. .	90 23 15.4	+ 0.5
	48	ε Orionis . . .	.	9	31 3.87	+ 0.26	— **52.00**	40 6 1.52	+ 3 33.66	+ 46.5	5 30 12.15	. .	91 16 42.9	+ 1.5
	49	α Canis Majoris .	.	8	40 47.02	+ 0.35	— **52.10**	55 21 56.35	+ 3 42.30	+ 1 19.2	6 39 55.33	. .	106 33 19.0	+ 1.9
	50	α Canis Minoris .	.	8	33 57.56	+ 0.24	— **52.01**	33 18 3.65	+ 3 20.65	+ 35.8	7 33 5.71	. .	84 28 21.3	— 0.6

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	29.83	72.7	72.6
5	29.82	73.8	74.0
6	29.81	74.7	74.8
8	29.80	77.8	78.8
9	29.74	81.8	81.8
10	29.80	72.7	70.1
15	29.79	71.1	69.0
20	29.80	70.7	68.0
23	29.81	70.6	67.6
25	29.80	69.9	67.3
28	29.80	68.9	66.6
36	29.80	66.8	64.3
37	29.79	67.3	65.0
38	29.81	66.3	63.2
40	29.83	66.3	63.5
43	29.83	65.8	63.0
44	29.83	66.5	64.9
45	29.84	67.8	67.1
46	29.88	74.2	75.7

For summary of the constants of reduction see page 3.

4, 5. One bisection.
6, 33. Three bisections.
9, 24, 37, 38, 45, 49. Four bisections.
15, 19, 25, 29, 40, 44. Five bisections.

ZENITH-POINT CORR.

″

1 to 9 + 37.69
10 to 45 + 36.65
46 to 50 + 37.19

6. Barometer and thermometers read at 6ʰ 24ᵐ.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
7	— 2.7	— 15 46.7	. .	— 15 49.4
8	— 2.6	+ 15 46.7	. .	+ 15 44.1
44	—19 37.5	+ 15 21.7	. .	— 4 15.8

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
July 19, W.	1	Sun I, N.		9	56 18.70	+ 0.19	− 52.11	17 47 54.82	+ 4 32.62	+ 17.5	7 55 26.78	+67.58	68 59 6.1	. .
	2	Sun II, S.		9	58 33.86	+ 0.19	− 52.11	18 19 55.98	+ 4 3.61	+ 18.1	7 57 41.94	−67.58	69 30 38.9	. .
	3	ε Leonis		6	39 59.55	+ 0.19	**− 52.30**	14 29 51.62	+ 4 26.24	+ 14.0	9 39 7.53	. .	65 40 53.1	+ 1.3
	4	α Ursæ Majoris		9	57 16.32	+ 0.02	− 52.28	336 26 0.28	+ 4 30.17	− 23.4	10 56 24.06	. .	27 36 28.2	+ 0.4
	5	δ Leonis		9	8 40.63	+ 0.21	**− 52.20**	17 37 58.38	+ 5 0.91	+ 17.2	11 7 48.55	. .	68 49 37.7	+ 0.2
	6	κ Aquilæ		9	31 26.17	+ 0.25	**− 52.81**	46 5 59.85	+ 3 55.94	+ 58.1	19 30 33.69	. .	97 17 15.1	+ 1.1
	7	γ Aquilæ		9	41 32.76	+ 0.16	**− 52.82**	28 29 56.20	+ 3 33.47	+ 30.4	19 40 40.18	. .	79 40 21.3	+ 2.3
	8	λ Ursæ Minoris		5	44 28.70	− 7.39	− 52.74	309 53 57.78	+ 3 54.71	− 1 6.5	19 43 28.57	. .	1 3 7.2	+ 2.7
	9	τ Aquilæ		9	59 16.19	+ 0.18	**− 52.73**	31 51 57.35	+ 4 19.57	+ 34.8	19 58 23.61	. .	83 3 12.9	+ 2.5
	10	Weisse 302		9	14 50.72	+ 0.15	− 52.78	25 58 0.42	+ 4 15.78	+ 27.3	20 13 58.09	− 3.93	77 9 4.7	+15.1
	11	γ Cygni		9	18 53.94	+ 0.02	**− 52.65**	358 55 59.62	+ 4 55.17	− 1.0	20 18 1.18	. .	50 7 15.0	+ 3.0
	12	B. A. C. 7060		9	23 33.89	− 0.14	− 52.79	339 38 3.30	+ 3 7.47	− 20.7	20 22 40.96	− 3.87	30 47 11.3	+11.5
	13	B. A. C. 7105		9	29 48.88	− 0.09	− 52.80	342 28 1.82	+ 3 12.33	− 17.6	20 28 55.99	− 3.85	33 37 17.8	+11.7
	14	B. A. C. 7220 (R)		.	. . . .	. .	. .	202 23 59.20	+ 4 48.49	+ 23.2	. . . .	. .	28 37 10.3	+10.9
	15	B. A. C. 7220		6	43 49.04	− 0.16	− 52.81	337 28 4.75	+ 3 11.94	− 23.2	20 42 56.07	− 4.00	28 37 14.7	+10.9
	16	B. A. C. 7621		9	47 20.60	− 0.24	− 52.89	332 35 58.35	+ 3 45.18	− 29.0	21 46 27.47	− 4.44	23 45 35.7	+ 8.6
	17	α Aquarii		1	0 36.88	+ 0.21	**− 52.89**	39 41 56.78	+ 4 27.49	+ 46.7	21 59 44.18	. .	90 53 32.2	+ 2.4
	18	B. A. C. 7749		7	7 40.84	− 0.13	− 52.92	341 11 56.88	+ 5 0.01	− 19.0	22 6 47.79	− 4.13	32 22 59.1	+ 9.2
	19	π Aquarii		9	20 8.54	+ 0.20	**− 52.93**	38 1 56.75	+ 4 12.06	+ 44.0	22 19 15.81	. .	89 13 14.0	+ 1.5
	20	Weisse (2) 496		9	24 32.26	+ 0.08	− 52.94	12 39 55.75	+ 3 57.46	+ 12.7	22 23 39.40	− 3.75	63 50 27.1	+15.2
	21	B. A. C. 7906		9	36 14.67	− 0.02	− 52.95	355 9 55.50	+ 4 18.94	− 4.7	22 35 21.70	− 3.86	46 20 30.9	+11.0
	22	λ Aquarii		9	47 20.86	+ 0.25	**− 52.98**	47 1 56.32	+ 3 5.98	+ 1 0.4	22 46 28.15	. .	98 12 23.9	+ 2.9
	23	Groom. 3940		9	54 58.33	− 0.07	− 52.97	346 49 57.12	+ 2 49.77	− 13.1	22 54 5.29	− 4.01	37 58 55.0	+ 8.7
22, R.	24	Comet *b* 1881, S. P.		9	48 36.98	+ 0.15	− 57.04	300 43 59.98	+ 2 58.84	− 1 34.3	11 47 40.09	. .	351 51 45.7	. .
	25	γ Pegasi		9	8 6.97	− 0.01	**− 56.94**	24 18 1.88	+ 3 36.42	+ 25.5	0 7 9.92	. .	75 28 25.0	+ 1.6
	26	B. A. C. 79 (R)		.	. . . .	. .	. .	192 23 55.52	+ 3 57.06	+ 12.5	. . . .	. .	38 38 16.1	+ 6.4
	27	B. A. C. 79		.	. . . .	. .	. .	347 28 2.12	+ 4 7.93	− 12.5	0 18 . .	. .	38 38 18.7	+ 6.4
	28	12 Ceti		9	24 58.27	+ 0.05	**− 57.08**	43 26 0.45	+ 3 17.03	+ 53.4	0 24 1.28	. .	94 36 32.1	+ 1.7
	29	α Cassiopeæ		9	34 47.01	+ 0.11	− 57.05	342 56 0.15	+ 4 49.03	− 17.2	0 33 50.07	. .	34 6 53.2	+ 1.6
	30	β Ceti		4	38 37.14	+ 0.09	**− 57.11**	57 26 0.20	+ 4 8.86	+ 1 28.3	0 37 40.18	. .	108 37 58.6	+ 1.9
	31	32² Camelop., S. P.		9	49 7.66	+ 0.28	− 57.05	302 53 58.48	+ 4 46.59	− 1 26.7	12 48 10.89	. .	354 3 39.6	+ 2.4
	32	ε Piscium		9	57 46.32	+ 0.01	**− 57.06**	31 33 57.12	+ 3 52.21	+ 34.7	0 56 49.28	. .	82 44 45.2	+ 0.8
	33	β Andromedæ		9	4 4.90	− 0.06	**− 56.97**	3 49 54.60	+ 4 11.01	+ 3.8	1 3 7.79	. .	55 0 30.6	+ 0.9
	34	Polaris		7	16 43.14	− 1.80	− 57.05	310 9 55.20	+ 4 28.05	− 1 6.6	1 15 44.29	. .	1 19 37.8	+ 2.7
	35	ο Piscium		9	40 6.76	+ 0.01	**− 57.13**	30 16 0.20	+ 3 20.45	+ 33.0	1 39 9.71	. .	81 26 14.8	+ 0.8
	36	β Arietis (R)		.	. . . .	. .	. .	161 15 58.28	+ 4 26.20	− 19.0	. . . .	. .	69 46 15.7	+ 0.3
	37	β Arietis		.	. . . .	. .	. .	18 35 59.40	+ 3 36.92	+ 19.0	1 48 . .	. .	69 46 16.5	+ 1.1
W.	38	α Orionis		9	49 43.20	+ 0.09	**− 57.70**	31 26 2.18	+ 4 2.76	+ 33.9	5 48 45.49	. .	82 37 0.0	+ 1.7
	39	μ Geminorum		9	16 45.34	+ 0.05	**− 57.69**	16 13 57.38	+ 5 6.08	+ 16.2	6 15 47.57	. .	67 25 40.9	+ 0.8
	40	α Canis Majoris		9	40 53.10	+ 0.17	**− 57.94**	55 21 57.62	+ 3 39.79	+ 1 19.8	6 39 55.43	. .	106 33 18.4	+ 2.0
	41	δ Canis Majoris		9	4 31.73	+ 0.22	**− 57.97**	64 59 59.92	+ 4 3.81	+ 1 57.7	7 3 34.09	. .	116 12 22.6	+ 2.4
	42	α Canis Minoris		9	34 3.60	+ 0.10	**− 57.92**	33 18 5.55	+ 3 22.54	+ 36.2	7 33 5.88	. .	84 28 25.5	+ 3.8
	43	β Geminorum		9	39 1.61	+ 0.06	**− 57.85**	10 29 56.05	+ 4 59.13	+ 10.3	7 38 3.79	. .	61 41 26.7	+ 3.9
23	44	Sun I, S.		9	12 22.21	+ 0.08	− 57.91	19 5 58.48	− 5 11.61	+ 19.1	8 11 24.38	+67.21	70 17 50.4	. .
	45	Sun II, N.		4	14 36.64	+ 0.08	− 57.91	18 33 57.38	+ 5 42.20	+ 18.5	8 13 38.81	−67.22	69 46 19.3	. .
	46	α Leonis		6	3 1.65	+ 0.11	**− 58.00**	26 16 . .	. .	. .	10 2 3.76	. .	77 27 . .	. .
	47	ι Pegasi		9	17 37.58	+ 0.09	**− 58.77**	19 29 56.58	+ 5 19.72	+ 19.9	21 16 38.91	. .	70 41 57.4	+ 0.4
	48	O. Arg. N. 22436		9	29 47.06	+ 0.05	− 58.77	349 21 55.80	+ 4 41.00	− 10.4	21 28 48.34	− 3.98	40 32 47.6	+12.9
	49	ε Pegasi		9	39 23.04	+ 0.11	**− 58.70**	29 29 56.30	+ 3 4.11	+ 31.7	21 38 24.37	. .	80 39 53.3	+ 0.7
	50	B. A. C. 7621		9	47 25.98	+ 0.04	− 58.79	332 35 59.50	+ 3 39.24	− 28.9	21 46 27.23	− 4.54	23 45 31.0	+10.0

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	29.87	81.2	83.5
3	29.86	85.5	87.4
5	29.86	86.9	87.1
6	29.89	71.4	69.7
16	29.88	68.9	66.8
24	29.73	65.7	62.3
34	29.78	65.1	62.2
37	29.79	65.2	62.7
38	29.86	73.1	73.9
43	29.87	76.4	77.7
45	29.87	77.4	78.7
47	29.89	70.4	68.4

For summary of the constants of reduction see page 3.

29, 43, 45.	One bisection.
24, 25, 32, 33, 35, 38.	Four bisections.
31, 34.	Five bisections.

ZENITH-POINT CORR.

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1 to 5	+ 37.19
6 to 23	+ 37.44
24 to 37	+ 36.02
38 to 45	+ 36.65
47 to 50	+ 35.12

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
1	− 2.7	+ 15 46.4	. .	+ 15 43.7
2	− 2.7	− 15 46.4	. .	− 15 49.1
44	− 2.9	− 15 45.5	. .	− 15 48.4
45	− 2.8	+ 15 45 5	. .	+ 15 42.7

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
July 23, W.	1	B. A. C. 7635		9	50 54.37	+ 0.27	− 58.79	77 4 0.72	+ 3 54.90	+ 3 59.5	21 49 55.85	− 4.73	128 18 16.3	+26.0
	2	α Aquarii		9	0 43.00	+ 0.13	− **58.85**	39 41 58.35	+ 4 24.09	+ 46.6	21 59 44.33	. .	90 53 30.2	+ 1.0
	3	θ Aquarii		9	11 35.93	+ 0.15	− **58.84**	47 9 54.50	+ 4 53.15	+ 1 0.5	22 10 37.27	. .	98 22 9.3	+ 1.4
	4	B. A. C. 7795		9	16 33.28	+ 0.13	− 58.82	40 48 3.62	+ 3 37.62	+ 48.4	22 15 34.59	− 3.93	91 58 50.8	+22.2
	5	Weisse (2) 496		9	24 38.28	+ 0.08	− 58.82	12 39 55.10	+ 3 56.77	+ 12.7	22 23 39.54	− 3.84	63 50 25.8	+16.3
	6	B. A. C. 7872		6	30 56.30	+ 0.23	− 58.83	71 3 59.92	+ 3 10.78	+ 2 42.0	22 29 57.70	− 4.26	122 16 13.9	+28.1
	7	Piazzi XXII, 154		5	30 59.85	+ 0.23	− 58.83	71 3 59.92	+ 1 57.90	+ 2 41.8	22 30 1.25	− 4.26	122 15 0.8	+28.1
	8	B. A. C. 7906		9	36 20.57	+ 0.06	− 58.83	355 9 55.72	+ 4 17.37	− 4.7	22 35 21.80	− 3.96	46 20 29.6	+12.3
	9	Bradley 3011[1]			. . . .	. .	. .	43 38 2.68	+ 5 7.07	+ 53.5	22 42 . .	. .	94 50 24.5	+23.5
	10	Bradley 3011[2]			. . . .	. .	. .	43 38 2.68	+ 5 5.71	+ 53.5	22 42 . .	. .	94 50 23.1	+23.5
	11	Piazzi XXII, 220			. . . .	. .	. .	43 38 2.68	+ 5 42.69	+ 53.5	22 42 . .	. .	94 51 0.1	+23.5
	12	B. A. C. 8032 (R)			. . . .	. .	. .	168 28 2.80	+ 5 0.58	− 11.3	. . . .	. .	62 33 29.1	+15.6
	13	B. A. C. 8032			. . . .	. .	. .	11 21 57.25	+ 5 1.59	+ 11.3	22 58 . .	. .	62 33 31.3	+15.6
	14	Comet *b* 1881, S. P.		9	59 40.46	− 0.07	− 58.91	300 33 59.80	+ 4 12.43	− 1 34.4	11 58 41.48	. .	351 42 59.0	. .
	15	α Cassiopeæ		9	34 48.93	+ 0.04	− 58.94	342 56 0.25	+ 4 48.23	− 17.2	0 33 50.03	. .	34 6 52.5	+ 1.1
	16	β Ceti			. . . .	. .	. .	57 26 2.18	+ 4 6.50	+ 1 28.0	0 38 . .	. .	108 37 57.9	+ 1.3
	17	ε Piscium		9	57 48.16	+ 0.10	− **58.97**	31 33 59.18	+ 3 50.13	+ 34.6	0 56 49.30	. .	82 44 45.1	+ 0.9
	18	β Andromedæ		9	4 6.82	+ 0.06	− **58.98**	3 49 57.85	+ 4 8.56	+ 3.8	1 3 7.91	. .	55 0 31.4	+ 1.9
	19	Polaris		7	16 44.00	+ 0.24	− 58.98	310 9 55.02	+ 4 27.07	− 1 6.4	1 15 45.26	. .	1 19 36.9	+ 1.9
	20	η Piscium		9	26 9.07	+ 0.09	− **58.98**	24 3 55.48	+ 5 10.09	+ 25.2	1 25 10.17	. .	75 15 52.0	+ 2.1
	21	ο Piscium		6	40 8.46	+ 0.10	− **58.99**	30 16 2.00	+ 3 17.26	+ 32.9	1 39 9.66	. .	81 26 13.4	− 0.4
24, E.	22	α Piscis Aust.			. . . .	. .	. .	69 1 55.32	+ 4 0.15	+ 2 25.5	22 51 . .	. .	120 14 42.2	+ 1.8
	23	α Pegasi			. . . .	. .	. .	24 15 57.20	+ 3 3.62	+ 25.3	22 59 . .	. .	75 25 47.3	+ 1.2
	24	θ Piscium			. . . .	. .	. .	33 5 57.98	+ 3 13.46	+ 36.6	23 22 . .	. .	84 16 9.2	+ 1.9
25, R.	25	α Orionis		9	49 47.30	+ 0.13	− **61.78**	31 25 59.85	+ 4 5.64	+ 33.6	5 48 45.62	. .	82 37 0.3	+ 2.2
	26	γ Geminorum		9	31 53.91	+ 0.12	− **61.86**	22 18 1.00	+ 5 22.41	+ 22.5	6 30 52.18	. .	73 30 7.1	+ 2.0
	27	α Canis Majoris		9	40 57.08	+ 0.18	− **61.87**	55 21 55.72	+ 3 43.00	+ 1 19.0	6 39 55.40	. .	106 33 18.9	+ 3.1
26	28	Sun I, N.		9	24 18.17	+ 0.14	− 61.97	19 13 55.72	+ 4 36.06	+ 18.9	8 23 16.34	+67.06	70 25 11.9	. .
	29	Sun II, S.		9	26 32.29	+ 0.14	− 61.97	19 45 56.48	+ 4 8.46	+ 19.5	8 25 30.46	−67.06	70 56 45.6	. .
	30	α Leonis		6	3 5.67	+ 0.16	− **62.07**	26 15 56.58	+ 4 35.96	+ 26.6	10 2 3.76	. .	77 27 20.3	+ 3.0
27, W.	31	Comet *b* 1881, S. P.		5	9 23.05	− 0.20	− 64.90	299 53 58.45	+ 4 29.36	− 1 37.2	12 8 17.95	. .	351 3 11.8	. .
	32	ε Piscium		8	57 54.25	+ 0.06	− **64.90**	31 33 59.12	+ 3 49.90	+ 34.7	0 56 49.41	. .	82 44 44.9	+ 1.4
	33	β Andromedæ		9	4 12.84	+ 0.03	− **64.84**	3 50 . .	. .	. .	1 3 7.97	. .	55 0 . .	. .
	34	Polaris		6	16 52.55	+ 0.97	− 64.90	310 9 56.45	+ 4 26.14	− 1 6.6	1 15 48.62	. .	1 19 37.2	+ 2.9
	35	η Piscium		6	26 15.21	+ 0.05	− **64.96**	24 3 58.92	+ 5 5.82	+ 25.3	1 25 10.36	. .	75 15 51.2	+ 2.1
	36	ο Piscium		9	40 14.64	+ 0.06	− **64.91**	30 15 59.30	+ 3 20.55	+ 33.0	1 39 9.80	. .	81 26 14.0	+ 0.9
	37	B. A. C. 569		8	47 26.25	+ 0.03	− 64.90	9 49 55.38	+ 3 33.09	+ 10.1	1 46 21.38	− 3.42	60 59 59.8	+10.1
	38	β Arietis		8	49 12.15	+ 0.05	− **64.87**	18 36 1.00	+ 3 35.42	+ 19.0	1 48 7.30	. .	69 46 16.6	+ 2.1
	39	α Arietis (R)			. . . .	. .	. .	163 55 59.25	+ 4 46.95	− 16.2	. . . .	. .	67 5 51.2	− 1.0
	40	α Arietis			. . . .	. .	. .	15 55 59.48	+ 3 16.78	+ 16.2	2 0 . .	. .	67 5 53.7	+ 1.5
	41	Saturn I, N.		6	41 32.12	+ 0.05	− 64.90	25 43 57.32	+ 4 2 54	+ 27.2	2 40 27.27	+ 0.58	76 54 48.3	. .
	42	Saturn II, S.		5	41 33.28	+ 0.05	− 64.90	25 43 57.32	+ 4 17.30	+ 27.2	2 40 28.43	− 0.58	76 55 3.0	. .
	43	Jupiter I, N.		6	23 8.10	+ 0.05	− 64.90	21 23 57.38	+ 4 22.24	+ 22.1	3 22 3.25	+ 1.27	72 35 2.9	. .
	44	Jupiter II, S.		4	23 10.65	+ 0.05	− 64.90	21 23 57.38	+ 4 57.72	+ 22.1	3 22 5.80	− 1.28	72 35 38.4	. .
E.	45	β Tauri		9	18 53.68	+ 0.06	− **5.10**	10 18 1.12	+ 5 10.92	+ 10.2	5 18 48.67	. .	61 29 43.4	+ 0.9
	46	Venus II, N.		7	20 25.11	+ 0.06	− 5.07	18 33 55.85	+ 3 14.15	+ 18.7	5 20 20.10	− 0.73	69 43 49.9	. .
	47	δ Orionis		9	26 2.53	+ 0.06	− **5.09**	39 11 57.75	+ 4 9.94	+ 45.4	5 25 57.52	. .	90 23 14.3	+ 0.7
	48	ε Orionis		9	30 17.37	+ 0.06	− **5.09**	40 6 1.88	+ 3 32.42	+ 46.8	5 30 12.35	. .	91 16 42.3	+ 2.1
	49	α Orionis		9	48 50.68	+ 0.05	− **5.03**	31 26 0.28	+ 4 4.61	+ 34.0	5 48 45.63	. .	82 37 0.1	+ 2.2
28	50	Sun I, S.		9	31 13.22	+ 0.09	− 5.27	20 13 56.85	+ 3 38.20	+ 20.2	8 31 8.04	+66.94	71 24 16.4	. .

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
13	29.89	69.4	67.9
17	29.92	67.9	66.4
21	29.95	67.9	66.0
23	29.96	70.2	69.0
25	29.95	78.6	79.3
26	29.95	81.1	81.6
29	29.95	84.8	87.3
30	29.93	87.8	89.4
31	29.89	66.6	65.7
35	29.90	65.8	64.5
40	29.91	65.8	64.5
44	29.92	67.9	67.8
47	29.94	73.0	73.2

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

		″
11, 49. One bisection.	1 to 21	+ 35.12
14, 19, 31. Three bisections.	22 to 24	+ 35.68
34. Four bisections.	25 to 30	+ 35.90
	31 to 44	+ 36.78
	45 to 50	+ 35.66

21. Barometer and thermometers read at $2^h\ 3^m$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
28	− 2.9	+ 15 46.8	. .	+ 15 43.9
29	− 3.0	− 15 46.8	. .	− 15 49.8
41	− 0.4	+ 7.3	. .	+ 6.9
42	− 0.4	− 7.4	. .	− 7.8
43	− 0.6	+ 17.7	. .	+ 17.1
44	− 0.6	− 17.8	. .	− 18.4
46	− 3.3	+ 10.3	. .	+ 7.0
50	− 3.0	− 15 45.5	. .	− 15 48.5

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
July 28, E.	1	Sun II, N.		9	33 27.10	+ 0.09	− 5.27	19 41 55.42	+ 4 9.20	+ 19.6	8 33 21.92	−66.94	70 52 45.4	. .
	2	α Leonis		9	2 9.01	+ 0.10	− **5.35**	26 15 57.02	+ 4 34.62	+ 27.0	10 2 3.75	. .	77 27 19.8	+ 2.5
	3	γ^1 Leonis		5	13 31.70	+ 0.11	− **5.38**	18 22 . .	. . .	. .	10 13 26.44	. .	69 34 . .	. .
	4	λ Aquarii		9	46 34.38	0.00	− **6.05**	47 1 53.52	+ 3 6.37	+ 1 0.7	22 46 28.31	. .	98 12 21.8	+ 2.1
	5	α Piscis Aust.		9	51 14.60	+ 0.04	− **6.09**	69 1 55.30	+ 3 59.29	+ 2 26.7	22 51 8.57	. .	120 14 42.5	+ 2.2
	6	α Ursæ Maj., S. P		5	56 29.75	− 0.30	− 6.07	281 17 55.82	+ 3 46.22	− 4 33.2	10 56 23.38	. .	332 23 30.0	− 0.2
	7	α Pegasi		9	58 59.93	− 0.02	− **6.02**	24 16 . .	. . .	. .	22 58 53.84	. .	75 26 . .	. .
	8	θ Piscium		9	22 5.83	− 0.02	− **6.13**	33 5 57.72	+ 3 13.34	+ 36.9	23 21 59.73	. .	84 16 9.2	− 2.7
	9	α Andromedæ		9	2 24.19	− 0.04	− **6.06**	10 23 52.70	+ 3 22.79	+ 10.4	0 2 18.07	. .	61 33 47.1	+ 2.1
	10	γ Pegasi		9	7 16.26	− 0.03	− **6.04**	24 17 58.40	+ 3 39.20	+ 25.6	0 7 10.15	. .	75 28 24.4	+ 2.2
	11	Comet *b* 1881, S. P.		9	42 57.09	− 0.52	− 6.09	299 43 54.32	+ 4 6.68	− 1 38.5	12 42 50.48	. .	350 52 43.7	. .
	12	ε Piscium.		9	56 55.62	− 0.03	− **6.15**	31 33 52.98	+ 3 56.74	+ 34.9	0 56 49.50	. .	82 44 45.8	+ 2.5
	13	β Andromedæ		9	3 14.19	− 0.04	− **6.09**	3 49 49.80	+ 4 16.56	+ 3.9	1 3 8.06	. .	55 0 31.5	+ 3.0
	14	Polaris		9	15 53.32	+ 2.28	− 6.09	310 9 49.00	+ 4 33.71	− 1 6.9	1 15 49.51	. .	1 19 37.1	+ 3.0
31, W.	15	α^2 Can. Ven.			. . . .	. .	. .	359 51 53.78	+ 4 8.03	− 0.1	12 50 . .	. .	51 2 22.9	+ 1.0
	16	Polaris, S. P.			. . . .	. .	. .	307 31 52.88	+ 3 23.27	− 1 11.2	1 16 . .	. .	358 40 26.2	0.0
	17	α Virginis			. . . .	. .	. .	49 19 57.28	+ 5 17.66	+ 1 4.0	13 19 . .	. .	100 32 40.1	+ 1.6
	18	ζ Virginis			. . . .	. .	. .	38 48 2.08	+ 4 19.10	+ 44.2	13 29 . .	. .	89 59 26.6	+ 2.0
	19	η Bootis			. . . .	. .	. .	19 49 52.50	+ 3 51.12	+ 19.9	13 49 . .	. .	71 0 24.7	+ 1.3
	20	α Bootis			. . . .	. .	. .	18 59 51.42	+ 5 24.51	+ 19.0	14 10 . .	. .	70 11 56.1	+ 1.0
August 2, E.	21	β Herculis		9	25 22.01	0.00	− **12.66**	17 3 49.40	+ 4 28.14	+ 17.0	16 25 9.34	. .	68 14 55.7	+ 1.3
	22	Weisse (2) 839		6	28 27.30	− 0.04	− 12.67	352 57 55.85	+ 4 54.25	− 6.7	16 28 14.59	− 2.55	44 9 4.6	+ 10.9
	23	Weisse (2) 840		5	28 27.61	− 0.04	− 12.67	352 57 55.85	+ 4 38.83	− 6.7	16 28 14.90	− 2.55	44 8 49.2	+ 10.9
	24	η Herculis		9	39 4.46	− 0.03	− **12.67**	359 39 48.55	+ 4 43.84	− 0.2	16 38 51.75	. .	50 50 53.4	+ 1.4
	25	B. A. C. 5671		9	47 17.42	+ 0.18	− 12.68	69 9 50.25	+ 4 56.83	+ 2 24.5	16 47 4.92	− 4.48	120 23 32.8	− 7.4
	26	κ Ophiuchi		9	52 18.26	+ 0.03	− **12.68**	29 15 51.15	+ 3 32.07	+ 31.0	16 52 5.61	. .	80 26 15.4	+ 0.2
	27	α Herculis		9	57 28.49	− 0.02	− **12.70**	5 3 50.38	+ 5 5.80	+ 5.0	16 57 15.79	. .	56 15 22.4	+ 2.0
	28	O. Arg. N. 16802[1]		8	1 57.07	− 0.05	− 12.68	339 5 55.38	+ 3 23.20	− 21.1	17 1 44.34	− 2.32	30 15 18.7	+ 13.8
	29	O. Arg. N. 16802[2]		8	1 58.36	− 0.05	− 12.68	339 5 55.38	+ 3 16.07	− 21.1	17 1 45.63	− 2.32	30 15 11.5	+ 13.8
	30	Anonymous		9	12 12.61	+ 0.15	− 12.69	62 9 49.45	+ 6 39.13	+ 1 44.9	17 12 0.07	− 4.37	113 24 34.7	− 2.8
	31	Anonymous		9	16 15.34	+ 0.14	− 12.69	61 53 52.60	+ 4 32.64	+ 1 43.6	17 16 2.79	− 4.38	113 6 30.0	− 2.3
	32	Anonymous		9	23 11.29	+ 0.15	− 12.69	62 44 . .	. . .	. .	17 22 58.75	− 4.44	113 56 . .	. .
	33	B. A. C. 5938		9	29 31.18	+ 0.18	− 12.69	70 51 51.38	+ 2 12.91	+ 2 38.4	17 29 18.67	− 4.78	122 3 3.9	− 3.2
	34	B. A. C. 5960		9	32 33.19	+ 0.18	− 12.69	70 51 51.38	+ 7 8.10	+ 2 39.2	17 32 20.68	− 4.80	122 7 59.9	− 2.9
	35	Stone 9620		9	33 15.63	+ 0.18	− 12.69	70 51 51.38	+ 4 32.07	+ 2 38.9	17 33 3.12	− 4.80	122 5 23.5	− 2.8
	36	B. A. C. 6038		5	45 44.53	+ 0.20	− 12.70	73 33 52.78	+ 8 33.77	+ 3 7.1	17 45 32.03	− 4.98	124 51 54.9	− 2.0
	37	B. A. C. 6042[1]		5	46 6.97	+ 0.20	− 12.70	73 33 52.78	+ 2 6.59	+ 3 5.9	17 45 54.47	− 4.98	124 45 26.5	− 2.0
	38	B. A. C. 6045		3	46 43.26	+ 0.20	− 12.70	73 33 52.78	+ 7 42.62	+ 3 7.0	17 46 30.76	− 4.98	124 51 3.6	− 1.9
	39	B. A. C. 6074[1]		5	51 44.04	+ 0.17	− 12.70	69 1 48.75	+ 3 48.83	+ 2 24.1	17 51 31.51	− 4.80	120 14 22.9	− 0.2
	40	B. A. C. 6074[2]		3	51 44.53	+ 0.17	− 12.70	69 1 48.75	+ 3 50.43	+ 2 24.1	17 51 32.00	− 4.80	120 14 24.5	− 0.2
	41	B. A. C. 6131		9	1 34.62	+ 0.18	− 12.70	69 55 52.95	+ 5 40.72	+ 2 31.5	18 1 22.10	− 4.88	121 10 26.4	+ 0.7
	42	δ Ursæ Minoris		8	10 55.54	− 0.05	− 12.70	312 13 49.92	+ 4 3.35	− 1 1.0	18 10 42.79	. .	3 23 13.5	+ 2.6
	43	1 Aquilæ		9	29 0.77	+ 0.07	− **12.72**	47 7 56.28	+ 4 8.55	+ 1 0.1	18 28 48.13	. .	98 19 26.1	+ 0.7
	44	α Lyræ		9	33 10.62	− 0.04	− **12.60**	0 9 48.38	+ 3 11.98	+ 0.2	18 32 57.87	. .	51 19 21.8	+ 2.3
	45	51 Cephei, S. P.		4	44 32.28	− 0.13	− 12.72	306 4 . .	. . .	. .	6 44 19.43	. .	2 47 . .	. .
	46	σ Sagittarii		9	48 10.66	+ 0.14	− **12.81**	65 13 51.95	+ 4 14.80	+ 2 0.6	18 47 58.08	. .	116 26 28.6	+ 1.0
	47	B. A. C. 6499		9	57 4.23	+ 0.16	− 12.72	69 59 52.92	+ 4 18.58	+ 2 32.5	18 56 51.67	− 5.03	121 13 5.2	+ 7.3
	48	ζ Aquilæ		9	0 13.04	0.00	− **12.73**	25 7 54.38	+ 3 49.77	+ 26.3	19 0 0.32	. .	76 18 31.7	+ 1.3
R.	49	Venus II, N.		8	47 30.75	+ 0.09	− 13.26	17 57 55.68	+ 3 43.98	+ 18.0	5 47 17.58	− 0.70	69 8 18.9	. .
	50	α Orionis		9	48 59.00	+ 0.11	− **13.26**	31 25 57.40	+ 4 6.41	+ 33.9	5 48 45.85	. .	82 36 58.9	+ 1.5

No.	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*			No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°					′ ″	′ ″	′ ″	′ ″
1	29.94	79.4	81.3				1	− 3.0	+ 15 45.5	. .	+ 15 42.5
4	29.95	66.8	64.8		ZENITH-POINT CORR.		49	− 3.1	+ 9.7	. .	+ 6.6
14	29.97	65.2	63.5								
15	30.20	81.6	82.8		″						
20	30.19	81.7	84.2	27, 41. One bisection.	1 to 2	+ 35.66					
21	30.08	79.3	79.0	14, 16, 42. Three bisections.	4 to 14	+ 39.36					
48	30.10	74.8	73.3	15. Four bisections.	15 to 20	+ 37.01					
49	30.17	77.0	78.3	11. Five bisections.	21 to 48	+ 38.60					
					49 to 50	+ 38.11					

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
August 2, R.	1	γ Geminorum		9	31 5.56	+ 0.11	— **13.33**	22 17 55.48	+ 5 26.77	+ 22.7	6 30 52.38	. .	73 30 6.1	+ 1.2
	2	α Canis Majoris		4	40 8.64	+ 0.19	— **13.30**	55 21 52.45	+ 3 42.45	+ 1 19.6	6 39 55.53	. .	106 33 15.7	+ 1.5
	3	ε Canis Majoris		8	54 10.92	+ 0.26	— **13.32**	67 35 57.18	+ 4 6.95	+ 2 12.5	6 53 57.87	. .	118 48 37.8	— 0.2
	4	δ Canis Majoris		7	3 47.30	+ 0.24	— **13.38**	64 59 54.75	+ 4 5.62	+ 1 57.1	7 3 34.22	. .	116 12 18.7	+ 0.9
	5	ι^2 Geminorum		9	27 15.62	+ 0.10	— **13.22**	6 39 52.02	+ 4 57.10	+ 6.5	7 27 2.38	. .	57 51 16.8	+ 2.0
	6	Mercury II, C.		9	36 54.32	+ 0.11	— 13.35	19 25 55.85	+ 4 46.62	+ 19.3	7 36 41.08	— 0.29	70 37 23.0	. .
	7	β Geminorum		3	38 17.24	+ 0.11	— **13.35**	10 29 51.40	+ 5 3.62	+ 10.2	7 38 4.00	. .	61 41 26.4	+ 2.8
3	8	Sun I, S.		9	54 41.96	+ 0.14	— 13.41	21 41 49.95	+ 5 40.92	+ 21.7	8 54 28.69	+66.34	72 54 13.8	. .
	9	Sun II, N.		9	56 54.64	+ 0.14	— 13.41	21 9 51.18	+ 6 5.68	+ 21.1	8 56 41.37	—66.34	72 22 39.2	. .
	10	α Leonis		9	2 17.09	+ 0.15	— **13.46**	26 15 51.52	+ 4 39.96	+ 26.8	10 2 3.77	. .	77 27 19.5	+ 2.2
	11	α Ursæ Majoris		9	56 36.87	+ 0.16	— 13.51	336 25 57.20	+ 4 37.51	— 23.4	10 56 23.52	. .	27 36 32.5	+ 1.3
	12	δ Leonis		2	8 1.93	+ 0.14	— **13.50**	17 38 . .	. .	. .	11 7 48.55	. .	68 50 . .	. .
	13	Leonis		9	43 14.72	+ 0.15	— **13.58**	23 33 54.12	+ 5 20.59	+ 23.6	11 43 1.32	. .	74 45 59.5	+ 3.2
	14	Moon I, N.		9	12 13.58	+ 0.20	— 13.79	59 35 53.35	+ 3 13.19	+ 1 32.7	15 11 59.99	+70.03	110 47 0.4	. .
	15	α Cor. Bor.		9	29 55.41	+ 0.04	— **13.76**	11 41 49.22	+ 4 37.32	+ 11.4	15 29 41.65	. .	62 52 59.1	+ 0.3
	16	α Serpentis		9	38 41.29	+ 0.09	— **13.83**	31 59 51.18	+ 5 11.05	+ 34.2	15 38 27.57	. .	83 11 57.6	— 0.5
	17	ε Serpentis		9	45 10.01	+ 0.09	— **13.81**	33 57 55.32	+ 4 55.09	+ 37.0	15 44 56.29	. .	85 9 48.6	+ 0.1
	18	δ Scorpii		9	53 35.40	+ 0.20	— **13.83**	61 3 52.98	+ 5 10.15	+ 1 39.0	15 53 21.79	. .	112 17 3.3	— 0.9
	19	B. A. C. 5358		9	2 32.81	+ 0.26	— 13.82	71 59 50.22	+ 4 55.00	+ 2 47.4	16 2 19.25	— 4.26	123 13 53.8	—12.8
	20	B. A. C. 5393		9	6 58.26	+ 0.24	— 13.82	70 7 56.50	+ 4 21.54	+ 2 30.9	16 6 44.68	— 4.22	121 21 10.1	—11.8
	21	B. A. C. 5417		5	8 7.68	0.00	— 13.82	356 7 56.05	+ 4 48.26	— 3.6	16 7 53.86	— 2.50	47 19 1.9	+ 9.4
	22	Lal. (F.) 2762		7	15 56.42	— 0.02	— 13.83	327 35 54.15	+ 4 14.88	— 34.8	16 15 42.57	— 1.06	18 45 55.4	+12.5
	23	B. A. C. 5506		9	23 43.67	+ 0.26	— 13.83	72 49 54.10	+ 5 14.82	+ 2 56.6	16 23 30.10	— 4.45	124 4 26.7	—11.0
	24	B. A. C. 5538		9	28 50.84	+ 0.26	— 13.84	73 45 52.55	+ 5 18.65	+ 3 7.4	16 28 37.26	— 4.52	125 0 39.8	—10.8
	25	B. A. C. 5583		5	35 48.89	+ 0.31	— 13.84	79 37 55.88	+ 4 27.46	+ 4 52.9	16 35 35.36	— 4.84	130 53 37.4	—11.8
	26	B. A. C. 5584		6	35 57.05	+ 0.31	— 13.84	79 37 55.88	+ 4 6.83	+ 4 52.7	16 35 43.52	— 4.84	130 53 16.6	—11.8
	27	B. A. C. 5671		.	. . .	. .	. .	69 9 50.00	+ 4 57.15	+ 2 24.5	16 47 . .	. .	120 23 32.9	— 7.5
	28	Weisse 958		2	52 19.72	+ 0.10	— 13.85	42 57 56.48	+ 4 16.88	+ 51.6	16 52 5.97	— 3.74	94 9 26.2	+ 0.9
	29	ε Ursæ Min. (R)		.	. . .	. .	. .	223 15 52.02	+ 3 43.52	+ 52.1	. . . .	. .	7 45 53.6	— 2.0
	30	ε Ursæ Minoris		.	. . .	. .	. .	316 35 51.80	+ 4 35.86	— 52.1	16 58 . .	. .	7 45 56.8	+ 1.2
	31	B. A. C. 5817		9	9 37.53	+ 0.23	— 13.86	71 15 56.90	+ 6 40.74	+ 2 42.9	17 9 23.90	— 4.68	122 31 41.7	— 5.7
	32	B. A. C. 5824		9	10 53 81	+ 0.23	— 13.86	71 15 56.90	+ 0 25.65	+ 2 41.9	17 10 40.18	— 4.69	122 25 25.7	— 5.5
	33	Anonymous		7	23 12.53	+ 0.18	— 13.87	62 43 50.79	+ 4 30.89	+ 1 47.6	17 22 58.84	— 4.43	113 56 30.5	— 1.8
	34	B. A. C. 5960		8	32 34.27	+ 0.22	— 13.87	70 51 51.32	+ 7 5.67	+ 2 39.7	17 32 20.62	— 4.79	122 7 57.9	— 3.0
	35	Stone 9620		9	33 16.84	+ 0.22	— 13.87	70 51 51.32	+ 4 30.26	+ 2 39.3	17 33 3.19	— 4.79	122 5 22.1	— 2.8
	36	B. A. C. 5968		8	34 11.51	+ 0.22	— 13.87	70 51 51.32	+ 2 3.44	+ 2 39.0	17 33 57.86	— 4.79	122 2 55.0	— 2.7
	37	ψ^1 Draconis		5	44 19.47	— 0.09	— 13.88	326 37 55.25	+ 3 40.52	— 36.6	17 44 5.50	. .	17 47 20.4	0.0
	38	Weisse (2) 1719	6.2	9	54 50.23	— 0.01	— 13.89	2 31 48.50	+ 3 38.25	+ 2.5	17 54 36.33	— 3.22	53 41 50.5	+13.9
	39	22 Camelop., S. P.		7	6 1.13	— 0.09	— 13.89	288 13 48.98	+ 3 57.02	— 2 46.6	6 5 47.15	. .	339 21 20.6	+ 1.4
	40	δ Ursæ Minoris		8	10 57.36	— 0.33	— 13.90	312 13 47.82	+ 4 3.52	— 1 1.2	18 10 43.13	. .	3 23 11.3	+ 0.7
	41	B. A. C. 6302	4.8	9	23 28.98	— 0.12	— 13.90	326 9 48.52	+ 3 21.56	— 37.4	18 23 14.96	— 2.60	17 18 53.9	+16.3
	42	Lalande 34486		9	31 9.66	+ 0.05	— 13.91	32 13 52.32	+ 4 15.17	+ 35.3	18 30 55.80	— 3.90	83 25 4.0	+11.5
	43	B. A. C. 6378		9	39 44.59	+ 0.27	— 13.91	79 15 53.62	+ 4 45.52	+ 4 47.7	18 39 30.95	— 5.46	130 31 48.0	+ 3.4
	44	51 Cephei, S. P.		8	44 33.54	+ 0.26	— 13.92	306 3 52.32	+ 4 31.53	— 1 16.5	6 44 19.88	. .	357 13 28.5	+ 2.1
	45	Lalande 36489		3	16 32.51	+ 0.07	— 13.93	39 17 52.92	+ 3 20.97	+ 45.9	19 16 18.65	— 4.16	90 28 21.0	+13.8
	46	Anonymous	11	6	21 33.17	+ 0.09	— 13.94	44 13 52.62	+ 5 27.48	+ 54.6	19 21 19.32	— 4.27	95 26 35.9	+13.6
	47	λ Ursæ Minoris		6	43 35.90	— 1.36	— 13.95	309 53 51.05	+ 3 55.80	— 1 6.7	19 43 20.59	. .	1 3 1.3	+ 1.8
	48	β Aquilæ		9	49 46.10	+ 0.05	— **13.97**	32 41 51.78	+ 4 18.06	+ 36.0	19 49 32.20	. .	83 53 7.0	+ 1.1
	49	τ Aquilæ		9	58 37.64	+ 0.04	— **13.96**	31 51 53.45	+ 4 18.59	+ 34.9	19 58 23.72	. .	83 3 8.1	+ 0.3
	50	κ Cephei (R)		.	. . .	. .	. .	218 21 48.75	+ 5 12.56	+ 44.5	. . . .	. .	12 38 35.4	— 0.4

No.	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*	No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°			′ ″	′ ″	′ ″	′ ″
1	30.18	80.3	82.1		6	— 3.5	. . .	— 0.1	— 3.6
7	30.19	84.4	86.9	ZENITH-POINT CORR.	8	— 3.2	— 15 47.3	. .	— 15 50.5
9	30.18	86.6	89.5		9	— 3.2	+ 15 47.3	. .	+ 15 44.1
10	30.17	88.5	90.3	″	14	—49 45.6	+ 15 47.3	. .	— 33 58.3
11	30.15	89.9	92.2	25, 26. One bisection. 1 to 13 + 38.11					
13	30.15	97.3	92.1	22, 30. Three bisections. 14 to 50 + 37.29					
14	30.14	85.3	86.6	5, 11, 41, 47. Four bisections.					
19	30.14	83.4	83.6	14, 40, 44. Five bisections.					
33	30.13	78.2	76.0						
39	30.12	75.8	74.3						
44	30.12	74.2	72.2						
47	30.12	73.6	72.0						

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
August 3, R.	1	κ Cephei	.	8	13 11.36	− 0.19	− 13.97	321 27 56.70	+ 5 4.62	− 44.5	20 12 57.20	. .	12 38 38.0	+ 2.2
	2	π Capricorni	.	9	20 48.99	+ 0.13	**− 13.95**	57 23 52.80	+ 4 4.50	+ 1 27.7	20 20 35.15	. .	108 35 46.2	+ 1.2
	3	B. A. C. 7153	6.5	9	34 8.06	− 0.08	− 13.98	346 15 52.80	+ 4 15.74	− 13.6	20 33 54.00	− 3.91	37 26 16.1	+17.2
	4	μ Aquarii (R)	.	.	. . .	. .	. .	131 37 56.28	+ 4 2.97	− 1 2.9	. . . .	. .	99 25 24.9	+ 0.6
	5	μ Aquarii	.	.	. . .	. .	. .	48 13 50.28	+ 4 10.56	+ 1 2.9	20 46 . .	. .	99 25 24.9	+ 0.6
	6	Astræa	12.5	9	54 43.40	+ 0.12	− 13.99	54 49 49.75	+ 4 4.03	+ 1 19.7	20 54 29.53	. .	106 1 34.7	− 3.5
	7	Lalande 40951	.	9	1 48.64	− 0.02	− 14.00	8 7 55.02	+ 2 48.14	+ 8.1	21 1 34.62	− 3.97	59 17 12.5	+18.8
4, W.	8	Moon I, N.	.	9	12 41.03	+ 0.23	− 15.50	61 33 51.85	+ 6 12.98	+ 1 40.7	16 12 25.76	+72.32	112 48 6.7	. .
	9	β Herculis	.	9	25 24.76	+ 0.06	**− 15.50**	17 3 52.62	+ 4 25.54	+ 16.8	16 25 9.32	. .	68 14 56.2	+ 2.0
	10	ζ Ophiuchi	.	9	30 55.43	+ 0.16	**− 15.42**	49 7 58.78	+ 4 9.99	+ 1 3.3	16 30 40.09	. .	100 19 33.3	+ 1.2
	11	η Herculis	.	9	39 7.19	+ 0.02	**− 15.49**	359 39 49.42	+ 4 43.83	− 0.2	16 38 51.71	. .	50 50 54.2	+ 2.4
	12	κ Ophiuchi	.	9	52 21.00	+ 0.10	**− 15.51**	29 15 53.70	+ 3 31.38	+ 30.8	16 52 5.60	. .	80 26 17.1	+ 2.1
	13	d Herculis	.	9	57 31.28	+ 0.04	**− 15.58**	5 3 51.75	+ 5 4.40	+ 4.9	16 57 15.82	. .	56 15 22.3	+ 2.2
	14	δ Ursæ Minoris	.	9	10 57.77	− 0.23	− 15.50	312 13 51.92	+ 4 0.97	− 1 0.9	18 10 42.04	. .	3 23 13.2	+ 2.9
5, E.	15	ζ Ophiuchi	.	9	30 56.59	+ 0.28	**− 16.71**	49 7 56.32	+ 4 12.69	+ 1 2.8	16 30 40.14	. .	100 19 33.0	+ 1.0
	16	η Herculis	.	9	39 8.36	+ 0.08	**− 16.74**	359 39 49.00	+ 4 43.85	− 0.2	16 38 51.70	. .	50 50 53.8	+ 2.2
	17	B. A. C. 5638	.	8	44 9.73	+ 0.49	− 16.74	76 33 52.18	+ 6 41.85	+ 3 44.5	16 43 53.48	− 4.73	127 50 39.7	−10.0
	18	B. A. C. 5640	.	9	44 37.68	+ 0.49	− 16.74	76 33 52.18	+ 5 0.23	+ 3 44.0	16 44 21.43	− 4.73	127 48 57.6	−10.0
	19	κ Ophiuchi	.	9	52 22.14	+ 0.18	**− 16.74**	29 15 50.40	+ 3 33.93	+ 30.5	16 52 5.58	. .	80 26 16.0	+ 1.1
	20	d Herculis	.	9	57 32.39	+ 0.10	**− 16.77**	5 3 47.92	+ 5 6.70	+ 4.9	16 57 15.74	. .	56 15 20.7	+ 0.7
	21	Weisse (2) 114	.	3	6 1.40	+ 0.07	− 16.75	357 53 47.50	+ 4 5.68	− 1.9	17 5 44.72	− 2.83	49 4 12.5	+12.6
	22	Moon I, N.	.	9	16 28.51	+ 0.35	− 16.76	62 11 46.48	+ 2 59.75	+ 1 43.0	17 16 12.10	+73.88	113 22 50.4	. .
	23	B. A. C. 5950	.	6	30 9.55	0.00	− 16.77	343 33 50.18	+ 3 53.45	− 16.0	17 29 52.78	− 2.60	34 43 48.8	+15.2
	24	B. A. C. 5951	.	5	30 14.77	0.00	− 16.77	343 33 50.18	+ 4 35.19	− 16.0	17 29 58.00	− 2.60	34 44 30.6	+15.2
	25	Stone 9620	8.0	3	33 19.63	+ 0.42	− 16.77	70 51 48.18	+ 4 37.20	+ 2 36.3	17 33 3.28	− 4.77	122 5 22.9	− 2.9
	26	B. A. C. 5968	.	9	34 14.38	+ 0.42	− 16.77	70 51 48.18	+ 2 10.50	− 2 35.9	17 33 58.03	− 4.77	122 2 55.8	− 2.8
	27	B. A. C. 6017	.	9	41 58.43	+ 0.40	− 16.78	69 19 49.05	+ 4 42.56	+ 2 23.9	17 41 42.05	− 4.75	120 33 16.7	− 1.5
	28	B. A. C. 6026[1]	8.5	6	43 54.08	+ 0.40	− 16.78	69 19 49.05	+ 2 51.80	+ 2 23.7	17 43 37.70	− 4.76	120 31 25.7	− 1.3
	29	B. A. C. 6026[2]	7.0	5	43 54.26	+ 0.40	− 16.78	69 19 49.05	+ 2 42.23	+ 2 23.7	17 43 37.88	− 4.76	120 31 16.2	− 1.3
	30	B. A. C. 6074[1]	.	6	51 48.09	+ 0.40	− 16.78	69 2 . .	. .	. .	17 51 31.71	− 4.78	120 14 . .	. .
	31	B. A. C. 6074[2]	.	5	51 48.33	+ 0.40	− 16.78	69 2 . .	. .	. .	17 51 31.95	− 4.78	120 14 . .	. .
	32	Weisse (2) 1764	.	8	56 34.75	+ 0.09	− 16.79	5 33 48.58	+ 6 24.87	+ 5.4	17 56 18.05	− 3.26	56 46 40.0	+13.9
	33	Weisse (2) 1797	.	9	57 34.41	+ 0.08	− 16.79	5 33 48.58	+ 0 47.77	+ 5.4	17 57 17.70	− 3.26	56 41 3.0	+14.0
	34	δ Ursæ Minoris	.	3	10 59.37	− 0.92	− 16.80	312 14 . .	. .	. .	18 10 41.65	. .	3 23 . .	. .
	35	η Serpentis	.	9	15 29.76	+ 0.22	**− 16.81**	41 43 50.35	4 35.24	− 48.8	18 15 13.18	. .	92 55 35.6	+ 2.0
	36	1 Aquilæ	.	9	29 4.70	+ 0.25	**− 16.85**	47 7 51.05	+ 4 14.26	+ 59.0	18 28 48.14	. .	98 19 25.5	+ 0.3
	37	51 Cephei, S. P.	.	6	44 35.82	+ 1.25	− 16.82	306 3 49.90	+ 4 32.04	− 1 14.9	6 44 20.25	. .	357 13 28.2	+ 2.2
	38	β Lyræ	.	9	46 1.41	+ 0.07	**− 16.78**	5 35 49.15	+ 3 57.23	+ 5.4	18 45 44.66	. .	56 46 13.0	0.0
7, W.	39	α Canis Majoris	.	9	40 15.94	+ 0.05	**− 20.36**	55 21 54.15	+ 3 37.11	+ 1 21.1	6 39 55.67	. .	106 33 13.6	+ 0.2
	40	ε Canis Majoris	.	.	. . .	. .	. .	67 35 56.38	+ 4 5.19	+ 2 15.2	6 54 . .	. .	118 48 38.0	+ 1.0
	41	α[2] Geminorum	.	9	27 22.89	+ 0.01	**− 20.30**	6 39 53.40	+ 4 55.69	+ 6.6	7 27 2.54	. .	57 51 16.9	+ 1.6
	42	α Canis Minoris	.	9	33 26.44	+ 0.02	**− 20.37**	33 18 0.82	+ 3 23.58	+ 36.7	7 33 6.09	. .	84 28 22.3	+ 1.5
	43	β Geminorum	.	9	38 24.48	+ 0.01	**− 20.40**	10 29 53.10	+ 5 0.96	+ 10.4	7 38 4.12	. .	61 41 25.7	+ 1.7
	44	Mercury II, S.	.	9	57 20.42	+ 0.01	− 20.39	18 57 59.38	+ 4 12.63	− 19.2	7 57 0.04	− 0.25	70 8 52.4	. .
8	45	Sun I, N.	.	9	13 59.32	+ 0.03	− 20.45	22 33 55.62	+ 4 38.33	+ 23.1	9 13 38.90	+65.82	73 45 18.3	. .
	46	Sun II, S.	.	9	16 10.97	+ 0.03	− 20.45	23 5 54.90	+ 4 17.99	+ 23.7	9 15 50.55	−65.83	74 16 57 8	. .
	47	α Leonis	.	6	2 24.31	+ 0.03	**− 20.55**	26 15 54.25	+ 4 36.02	+ 27.4	10 2 3.85	. .	77 27 18.9	+ 1.5
	48	α Ursæ Majoris	.	2	56 44.06	+ 0.11	− 20.54	336 25 59.48	+ 4 37.93	− 24.0	10 56 23.63	. .	27 36 34.6	+ 2.1
	49	δ Leonis	.	9	8 9.06	+ 0.03	**− 20.53**	17 37 56.95	+ 5 2.64	+ 17.6	11 7 48.54	. .	68 49 38.4	− 0.1

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
7	30.11	72.2	70.3
8	30.10	84.3	85.4
13	30.10	79.9	79.1
15	30.08	88.0	87.5
23	30.09	86.5	85.5
38	30.09	83.5	82.5
39	30.10	72.2	71.7
44	30.09	75.1	75.5
46	30.07	76.8	77.2
47	30.07	77.8	77.8
48	30.08	78.9	79.1

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

		″
32, 33, 37, 40.	One bisection.	1 to 7 + 37.29
14, 36.	Four bisections.	8 to 14 + 39.74
22.	Five bisections.	15 to 38 + 38.84
		39 to 49 + 37.49

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
8	−51 35.6	+ 16 2.8	. .	− 35 32.8
22	−52 41.2	+ 16 17.8	. .	− 36 23.4
44	− 3.0	− 3.5	. .	− 6.5
45	− 3.4	+ 15 49.7	. .	+ 15 46.3
46	− 3.4	− 15 49.8	. .	− 15 53.2

13. Barometer and thermometers read at $17^h\ 38^m$.

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	m. h. s.	s.	° ′ ″	″
August 8, W.	1	β Leonis		9	43 21.76	+ 0.03	**— 20.53**	23 33 53.52	+ 5 20.04	+ 24.1	11 43 1.21	. .	74 45 58.9	+ 2.5
	2	γ Ursæ Majoris		9	47 55.89	+ 0.08	— 20.58	344 27 58.18	+ 4 39.98	— 15.2	11 47 35.39	. .	35 38 44.2	+ 1.8
	3	α^1 Herculis		9	9 37.58	— 0.01	**— 20.90**	24 17 58.55	+ 3 31.01	+ 25.2	17 9 16.61	. .	75 28 16.0	+ 1.2
	4	B. A. C. 5887		9	18 26.73	+ 0.11	— 20.97	326 55 57.78	+ 3 6.35	— 36.2	17 18 5.87	— 1.44	18 4 49.1	+15.7
	5	B. A. C. 5910		8	24 40.91	+ 0.01	— 20.97	39 45 57.50	+ 4 37.00	+ 46.6	17 24 19.95	— 3.76	90 57 42.3	+ 4.9
	6	α Ophiuchi		9	29 49.14	— 0.01	**— 20.98**	26 9 52.42	+ 4 20.33	+ 27.5	17 29 28.15	. .	77 21 1.5	+ 2.1
	7	Lalande 32322		9	36 0.37	— 0.01	— 20.98	1 31 52.12	+ 5 1.87	+ 1.6	17 35 39.38	— 3.02	52 43 16.8	+14.0
	8	B. A. C. 6017		9	42 2.96	+ 0.08	— 20.99	69 19 54.40	+ 4 34.46	+ 2 27.4	17 41 42.05	— 4.72	120 33 17.5	— 1.6
	9	B. A. C. 6026^1		6	43 58.58	+ 0.08	— 20.99	69 19 54.40	+ 2 43.93	+ 2 27.1	17 43 37.67	— 4.72	120 31 26.6	— 1.4
	10	B. A. C. 6026^2		5	43 58.61	+ 0.08	— 20.99	69 19 54.40	+ 2 33.51	+ 2 27.1	17 43 37.70	— 4.72	120 31 16.2	— 1.4
	11	Weisse (2) 1719		9	54 57.41	— 0.02	— 21.00	2 31 52.48	+ 3 33.54	+ 2.5	17 54 36.39	— 3.14	53 41 49.7	+14.8
	12	γ^2 Sagittarii		9	58 35.60	+ 0.08	**— 21.07**	69 11 51.90	+ 4 46.45	+ 2 26.5	17 58 14.67	. .	120 25 26.1	+ 0.4
	13	δ Ursæ Minoris		8	11 0.60	+ 1.03	— 21.02	312 13 49.70	+ 4 1.75	— 1 1.4	18 10 40.61	. .	3 23 11.2	+ 1.8
	14	51 Cephei, S. P.		7	44 44.03	— 1.52	— 21.05	306 3 54.12	+ 4 29.23	— 1 16.6	6 44 21.46	. .	357 13 28.0	+ 2.8
	15	B. A. C. 6734 (R)		.	. . . .	. .	. .	190 57 55.90	+ 5 20.19	+ 11.0	. . . .	. .	40 2 54.1	+18.9
	16	B. A. C. 6734		.	. . . .	. .	. .	348 51 52.58	+ 4 54.76	— 11.0	19 33 . .	. .	40 2 57.5	+18.9
	17	Lacaille 8249		9	45 35.97	+ 0.06	— 21.11	71 3 53.88	+ 3 35.72	+ 2 42.9	19 45 14.92	— 5.11	122 16 33.7	+12.4
	18	Anonymous		9	49 24.84	+ 0.06	— 21.11	71 3 53.88	+ 3 12.46	+ 2 42.8	19 49 3.79	— 5.11	122 16 10.3	+12.8
	19	τ Aquilæ		9	58 44.90	— 0.02	**— 21.15**	31 51 55.70	+ 4 17.80	+ 35.1	19 58 23.76	. .	83 3 9.8	+ 2.7
	20	Lalande 38554		9	3 23.01	— 0.02	— 21.13	28 25 56.18	+ 4 6.31	+ 30.6	20 3 1.86	— 4.06	79 36 54.3	+18.5
	21	Moon I, N.		9	31 40.37	+ 0.02	— 21.15	54 9 54.62	+ 3 53.33	+ 1 18.7	20 31 19.24	+72.31	105 21 27.3	. .
	22	ν Cygni		9	53 9.39	— 0.04	**— 21.16**	358 5 55.18	+ 4 53.66	— 1.8	20 52 48.18	. .	49 17 8.2	+ 2.1
	23	61^1 Cygni		6	1 59.25	— 0.04	**— 21.20**	0 39 54.68	+ 3 29.22	+ 0.7	21 1 38.03	. .	51 49 45.8	+ 0.9
	24	61^2 Cygni		5	2 0.79	— 0.04	— 21.18	0 39 54.68	+ 3 38.99	+ 0.7	21 1 39.57	— 3.99	51 49 55.6	+19.7
	25	ζ Cygni		9	8 17.51	— 0.04	**— 21.15**	9 3 52.85	+ 4 55.50	+ 9.1	21 7 56.28	. .	60 15 18.7	+ 0.7
	26	B. VI + 79°, 699		7	16 22.51	+ 0.17	— 21.20	318 59 53.75	+ 3 33.68	— 49.0	21 16 1.48	— 6.27	10 8 59.6	+15.5
	27	Σ (P.M.) 2603 (*med.*)		9	22 30.28	+ 0.17	— 21.20	318 59 53.75	+ 3 50.48	— 49.0	21 22 9.25	— 6.41	10 9 16.4	+15.3
	28	ε Pegasi (R)		.	. . . .	. .	. .	150 19 54.18	+ 7 9.39	— 32.0	. . . .	. .	80 39 49.6	+ 0.1
	29	ε Pegasi		.	. . . .	. .	. .	29 29 52.78	+ 3 5.52	+ 32.0	21 38 . .	. .	80 39 51.5	+ 2.0
10, R.	30	Venus II, N.		9	24 48.83	+ 0.03	— 24.35	17 35 54.72	+ 3 24.78	+ 17.7	6 24 24.51	— 0.65	68 45 58.4	. .
	31	Venus S.		.	. . . .	. .	. .	17 35 54.72	+ 3 43.41	+ 17.7	. . . .	. .	68 46 17.0	. .
	32	γ Geminorum		8	31 16.85	+ 0.04	**— 24.36**	22 17 55.48	+ 5 26.37	+ 22.9	6 30 52.53	. .	73 30 5.9	+ 1.2
	33	α Canis Majoris		9	40 19.97	+ 0.10	**— 24.38**	55 21 54.02	+ 3 37.81	+ 1 20.5	6 39 55.69	. .	106 33 13.5	+ 0.5
	34	α^2 Geminorum		9	27 27.12	+ 0.03	**— 24.48**	6 39 53.08	+ 4 55.69	+ 6.6	7 27 2.69	. .	57 51 16.6	+ 1.0
	35	α Canis Minoris		9	33 30.54	+ 0.06	**— 24.46**	33 17 57.65	+ 3 27.71	+ 36.5	7 33 6.13	. .	84 28 23.1	+ 2.5
	36	β Geminorum		9	38 28.60	+ 0.03	**— 24.48**	10 29 48.80	+ 5 5.58	+ 10.4	7 38 4.15	. .	61 41 26.0	+ 1.8
	37	Mercury II, C.		3	14 27.47	+ 0.04	— 24.54	19 3 54.35	+ 4 28.63	+ 19.2	8 14 2.97	— 0.23	70 15 3.4	. .
11	38	Sun I, S.		9	25 26.23	+ 0.06	— 24.67	23 57 57.00	+ 4 54.93	+ 24.6	9 25 1.62	+65.63	75 9 37.7	. .
	39	Sun II, N.		9	27 37.50	+ 0.06	— 24.67	23 25 53.58	+ 5 21.97	+ 24.0	9 27 12.89	—65.64	74 38 0.8	. .
	40	δ Sagittarii		9	11 9.93	+ 0.10	**— 25.13**	57 57 59.22	+ 3 49.79	+ 1 29.3	19 10 44.95	. .	109 9 39.5	+ 2.5
	41	δ Aquilæ		5	19 59.04	+ 0.05	**— 25.11**	35 55 57.10	+ 4 3.65	+ 40.6	19 19 34.00	. .	87 7 2.6	+ 1.1
	42	κ Aquilæ (R)		.	. . . .	. .	. .	133 45 54.42	+ 4 11.72	— 58.2	. . . .	. .	97 17 13.3	+ 1.1
	43	κ Aquilæ		.	. . . .	. .	. .	46 5 56.30	+ 3 57.91	+ 58.2	19 30 . .	. .	97 17 13.6	+ 1.4
	44	λ Ursæ Minoris		5	43 40.34	+ 1.51	— 25.12	309 53 53.20	+ 3 51.72	— 1 6.8	19 43 16.73	. .	1 2 59.3	+ 2.3
	45	B. A. C. 6865		3	53 58.65	— 0.01	— 25.13	348 13 53.15	+ 4 40.04	— 11.6	19 53 33.51	— 3.63	39 24 42.8	+20.0
	46	τ Aquilæ		9	58 48.76	+ 0.04	**— 25.07**	31 51 53.72	+ 4 18.13	+ 34.9	19 58 23.67	. .	83 3 7.9	+ 1.3
	47	B. A. C. 6977		3	12 32.02	+ 0.14	— 25.14	68 48 0.20	+ 2 38.38	+ 2 23.8	20 12 7.02	— 5.01	119 59 23.6	+15.5
	48	Weisse 302		5	14 23.22	+ 0.03	— 25.15	25 57 56.80	+ 4 13.31	+ 27.4	20 13 58.10	— 4.05	77 8 58.7	+19.7
	49	Lalande 39329		7	20 53.91	+ 0.02	— 25.15	17 47 56.78	+ 3 42.51	+ 18.1	20 20 28.78	— 3.97	68 58 18.6	+20.3
	50	B. A. C. 7153		8	34 19.06	0.00	— 25.17	346 15 53.90	+ 4 11.91	— 13.7	20 33 53.89	— 3.89	37 26 13.3	+20.0

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	30.07	81.9	78.9
3	30.08	74.0	73.6
22	30.07	68.4	67.1
29	30.06	67.8	66.2
30	30.01	72.8	73.0
33	30.02	74.6	74.5
37	30.03	76.2	76.2
39	30.03	78.6	79.3
40	29.99	71.8	70.3
46	29.99	70.8	69.2

For summary of the constants of reduction see page 3.

		ZENITH-POINT CORR.
		″
9, 26.	One bisection.	1 to 2 + 37.49
14, 21.	Three bisections.	3 to 29 + 37.93
32, 35.	Four bisections.	30 to 39 + 37.38
44.	Five bisections.	40 to 50 + 38.11

33. Barometer and thermometers read at $6^h\ 50^m$.
37. Barometer and thermometers read at $8^h\ 0^m$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
21	—49 37.0	+ 16 45.0	. .	— 32 52.0
30	— 2.8	+ 9.3	0.0	+ 6.5
31	— 2.8	— 9.3	. .	— 12.1
37	— 2.8	. .	— 0.2	— 3.0
38	— 3.6	— 15 48.4	. .	— 15 52.0
39	— 3.5	+ 15 48.4	. .	+ 15 44.9

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
August 11, R.	1	B. A. C. 7219	.	9	43 45.12	0.00	− 25.18	353 41 51.32	+ 2 59.68	− 6.2	20 43 19.94	− 3.92	44 51 6.0	+20.3
	2	Astræa	11.0	9	47 55.98	+ 0.10	− 25.18	55 29 51.62	+ 3 50.31	+ 1 21.7	20 47 30.90	. .	106 41 24.8	− 3.5
	3	Lalande 40951	.	7	1 59.83	+ 0.01	− 25.19	8 7 57.92	+ 2 43.81	+ 8.1	21 1 34.65	− 4.01	59 17 11.0	+21.1
	4	B. VI + 79°, 699	.	4	16 26.58	+ 0.04	− 25.21	318 59 50.88	+ 3 36.81	− 48.7	21 16 1.41	− 6.24	10 9 0.2	+16.6
	5	Σ (P. M.) 2603 (*med.*)	.	9	22 34.37	+ 0.04	− 25.21	318 59 50.88	+ 3 52.72	− 48.7	21 22 9.20	− 6.39	10 9 16.1	+16.4
	6	B. A. C. 7635	5.3	9	50 21.18	+ 0.18	− 25.24	77 3 54.92	+ 3 59.28	+ 4 0.4	21 49 56.12	− 5.06	128 18 15.8	+24.6
	7	B. A. C. 7702	.	9	1 57.88	+ 0.16	− 25.25	73 22 . .	. .	. .	22 1 32.79	− 4.87	124 37 . .	. .
	8	Lacaille 9036	.	9	3 28.48	+ 0.16	− 25.25	73 21 51.58	+ 4 12.06	+ 3 6.3	22 3 3.39	− 4.86	124 35 31.1	+25.8
	9	θ Aquarii	.	5	11 2.71	+ 0.06	**− 25.23**	47 9 51.80	+ 4 53.46	+ 1 0.7	22 10 37.51	. .	98 22 7.2	+ 1.2
	10	π Aquarii	.	9	19 41.43	+ 0.04	**− 25.27**	38 1 54.02	+ 4 10.72	+ 44.0	22 19 16.20	. .	89 13 9.9	+ 1.0
	11	Weisse (2) 496	.	4	24 5.18	0.00	− 25.27	12 39 51.82	+ 3 54.98	+ 12.7	22 23 39.91	− 4.16	63 50 20.7	+21.5
	12	226 Cephei	.	9	30 42.13	+ 0.01	− 25.28	323 13 52.18	+ 3 28.80	− 41.9	22 30 16.86	. .	14 23 0.3	+ 1.7
	13	ζ Pegasi	.	9	36 1.01	+ 0.02	**− 25.23**	28 35 57.38	+ 4 10.51	+ 30.7	22 35 35.74	. .	79 46 59.8	+ 1.4
	14	α Piscis Aust.	.	6	51 34.08	+ 0.14	**− 25.38**	69 1 53.85	+ 4 1.15	+ 2 26.0	22 51 8.92	. .	120 14 42.2	+ 1.7
	15	α Pegasi	.	9	59 19.45	+ 0.02	**− 25.32**	24 15 56.02	+ 3 0.89	+ 25.4	22 58 54.16	. .	75 25 43.5	+ 1.3
	16	Moon II, N.	.	6	30 53.10	+ 0.04	− 25.34	36 59 53.02	+ 3 44.62	+ 42.4	23 30 27.80	−68.27	88 10 41.2	. .
12, W.	17	δ Herculis	.	3	57 42.28	+ 0.08	**− 26.76**	5 3 53.92	+ 5 1.01	+ 4.9	16 57 15.63	. .	56 15 21.0	+ 1.9
	18	α¹ Herculis	.	8	9 43.21	+ 0.11	**− 26.70**	24 17 58.02	+ 3 32.24	+ 24.6	17 9 16.58	. .	75 28 16.1	+ 1.7
	19	B. A. C. 5833	.	9	12 7.21	+ 0.27	− 26.74	69 59 55.55	+ 5 18.29	+ 2 28.8	17 11 40.74	− 4.53	121 14 3.8	− 5.2
	20	b Ophiuchi	.	9	19 37.11	+ 0.23	**− 26.81**	62 51 54.22	+ 3 53.43	+ 1 46.0	17 19 10.60	. .	114 3 54.8	+ 1.2
	21	D. M. − 0°, 3298	.	6	24 27.14	+ 0.14	− 26.75	39 45 57.45	+ 3 24.55	+ 45.4	17 24 0.53	− 3.72	90 50 28.6	+ 5.2
	22	B. A. C. 5910	.	4	24 46.56	+ 0.14	− 26.75	39 46 . .	. .	. .	17 24 19.95	− 3.72	90 58 . .	. .
	23	B. A. C. 5950	.	.	. . .	. .	. .	343 33 54.48	+ 3 49.10	− 16.0	17 30 . .	. .	34 43 48.8	+16.4
	24	B. A. C. 5951	.	5	30 24.41	+ 0.08	− 26.75	343 33 54.48	+ 4 30.43	− 16.0	17 29 57.74	− 2.39	34 44 29.1	+16.4
	25	μ Herculis	.	5	42 17.81	+ 0.09	**− 26.60**	11 1 50.98	+ 3 57.25	+ 10.7	17 41 51.14	. .	62 12 20.1	+ 1.1
	26	μ Sagittarii	.	7	7 9.92	+ 0.21	**− 26.87**	59 53 55.90	+ 3 25.13	+ 1 34.1	18 6 43.36	. .	111 5 16.3	+ 1.6
	27	δ Ursæ Minoris	.	7	11 5.34	+ 0.74	− 26.78	312 13 53.75	+ 3 56.17	− 1 0.0	18 10 39.30	. .	3 23 11.1	+ 2.4
	28	B. A. C. 6252	.	9	18 37.72	+ 0.06	− 26.78	349 9 51.90	+ 3 36.47	− 10.4	18 18 11.00	− 2.93	40 19 39.2	+18.0
	29	Weisse (2) 794	.	9	28 46.96	+ 0.07	− 26.79	8 21 52.60	+ 3 26.07	+ 8.1	18 28 26.24	− 3.38	59 31 48.0	+16.5
	30	Anonymous	10	8	32 28.30	+ 0.24	− 26.79	66 23 54.80	+ 1 2.17	+ 2 4.6	18 32 1.75	− 4.77	117 33 22.8	+ 4.7
	31	M. Z. 45, 21	.	6	33 37.87	+ 0.24	− 26.79	66 23 54.80	+ 6 28.11	+ 2 5.1	18 33 11.32	− 4.78	117 38 49.2	+ 4.8
	32	O. Arg. S. 18537	.	9	34 51.60	+ 0.24	− 26.79	66 23 54.80	+ 0 51.63	+ 2 4.6	18 34 25.05	− 4.78	117 33 12.2	+ 5.0
	33	Lamont 77	.	9	43 22.61	+ 0.24	− 26.80	67 31 55.50	+ 3 57.46	+ 2 11.9	18 42 56.05	− 4.84	118 44 26.1	+ 5.7
	34	51 Cephei, S. P.	.	1	44 53.00	− 0.94	− 26.80	306 3 55.10	− 4 24.43	− 1 14.9	6 44 25.26	. .	357 13 25.8	+ 1.6
	35	B. A. C. 6422	.	9	46 11.41	+ 0.24	− 26.80	66 41 53.98	+ 3 29.61	+ 2 6.7	18 45 44.26	− 4.82	117 53 51.5	+ 6.2
	36	δ Draconis (R)	.	.	. . . .	. .	. .	208 27 57.40	+ 5 23.12	+ 29.9	. . . .	. .	22 32 30.8	− 1.7
	37	δ Draconis	.	.	. . . .	. .	. .	331 21 52.60	+ 4 51.58	− 29.9	19 13 . .	. .	22 32 35.5	+ 3.0
	38	δ Aquilæ (R)	.	.	. . . .	. .	. .	143 55 53.42	+ 4 4.98	− 39.9	. . . .	. .	87 7 2.7	+ 1.3
	39	δ Aquilæ	.	.	. . . .	. .	. .	35 55 56.75	+ 4 4.39	+ 39.9	19 20 . .	. .	87 7 2.2	+ 0.8
	40	Anonymous	10	4	30 34.36	+ 0.32	− 26.83	78 45 55.38	+ 3 45.19	+ 4 29.7	19 30 7.85	− 5.48	130 0 31.5	+ 9.0
	41	Anonymous	8.5	9	32 6.41	+ 0.32	− 26.83	78 45 55.38	+ 4 0.50	+ 4 29.8	19 31 39.90	− 5.48	130 0 46.9	+ 9.2
	42	Σ (P. M.) 2355¹	.	6	41 32.47	+ 0.06	− 26.83	5 29 51.30	+ 3 43.20	+ 5.4	19 41 5.70	− 3.69	56 40 1.1	+19.7
	43	(P. M.) 2355	.	5	41 32.65	+ 0.06	− 26.83	5 29 51.30	+ 3 45.53	+ 5.4	19 41 5.88	− 3.69	56 40 3.4	+19.7
	44	Weisse (2) 1501	.	9	47 31.70	+ 0.07	− 26.84	14 7 58.15	+ 3 54.88	+ 13.9	19 47 4.93	− 3.82	65 18 28.1	+19.4
	45	τ Aquilæ	.	7	58 50.49	+ 0.10	**− 26.86**	31 51 55.20	+ 4 17.90	+ 34.3	19 58 23.74	. .	83 8 8.6	+ 2.1
	46	Lalande 38591	.	9	3 38.67	+ 0.06	− 26.85	4 45 55.72	+ 2 39.27	+ 4.6	20 3 11.88	− 3.78	55 55 0.8	+20.4
	47	α² Capricorni	.	9	11 58.27	+ 0.16	**− 26.84**	51 43 55.65	+ 3 3.68	+ 1 9.7	20 11 31.58	. .	102 54 30.2	+ 2.4
	48	γ Cygni	.	9	18 28.10	+ 0.05	**− 26.78**	358 55 55.18	+ 4 50.17	− 0.9	20 18 1.29	. .	50 7 5.7	+ 1.2
	49	π Capricorni	.	9	21 1.96	+ 0.18	**− 26.94**	57 23 53.42	+ 4 6.35	+ 1 25.9	20 20 35.28	. .	108 35 46.9	+ 1.9
	50	B. A. C. 7105	.	6	29 22.64	+ 0.04	− 26.86	342 27 57.80	+ 3 7.04	− 17.3	20 28 55.82	− 3.87	33 37 8.7	+20.1

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
4	30.00	69.5	68.0
7	29.99	70.3	68.3
16	29.98	68.9	67.7
17	29.90	84.2	83.4
28	29.90	81.8	80.3
45	29.88	79.6	77.0
50	29.87	79.0	77.4

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

	″
13, 23, 24, 32, 34, 41. One bisection.	1 to 16 + 38.11
27. Three bisections.	17 to 50 + 37.52

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
16	−36 2.9	+ 16 25.0	. .	− 19 37.9

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
August 14, R.	1	Venus II, S.		8	43 51.46	− 0.02	− 29.68	17 35 55.90	+ 4 29.67	+ 17.8	6 43 21.76	− 0.63	68 47 4.6	. .
	2	Venus N.			. . . .	. .	. .	17 35 55.90	+ 4 10.36	+ 17.8	. . . .	. .	68 46 45.3	. .
	3	ε Canis Majoris		9	54 27.75	+ 0.01	− **29.65**	67 35 59.45	+ 3 59.76	+ 2 15.2	6 53 58.07	. .	118 48 35.6	− 0.1
	4	δ Canis Majoris		9	4 4.01	+ 0.02	− **29.64**	64 59 54.52	+ 4 2.52	+ 1 59.5	7 3 34.33	. .	116 12 17.7	+ 2.2
	5	δ Draconis, S. P.		6	13 4.75	− 0.52	− 29.71	286 20 . .	. . .	. .	19 12 34.52	. .	337 27 . .	. .
	6	α^2 Geminorum		8	27 32.55	0.00	− **29.78**	6 39 54.50	+ 4 54.18	+ 6.6	7 27 2.82	. .	57 51 16.5	+ 0.6
	7	β Geminorum		9	38 34.03	0.00	− **29.79**	10 29 51.62	+ 5 1.61	+ 10.4	7 38 4.30	. .	61 41 24.8	+ 0.4
15	8	Sun I, S.		9	40 34.49	+ 0.01	− 29.85	25 11 54.98	+ 4 37.32	+ 26.1	9 40 4.65	+65.27	76 23 19.6	. .
	9	Sun II, N.		9	42 45.03	+ 0.01	− 29.85	24 39 52.92	+ 5 0.75	+ 25.5	9 42 15.19	−65.27	75 51 40.4	. .
	10	α Ursæ Majoris		9	56 53.32	+ 0.19	− 29.92	336 25 58.75	+ 4 38.99	− 23.9	10 56 23.59	. .	27 36 35.0	+ 0.6
	11	Anonymous	10.5	9	16 32.79	− 0.01	− 30.21	61 53 56.05	+ 4 29.00	+ 1 44.8	17 16 2.57	− 4.23	113 6 31.0	− 2.3
	12	B. A. C. 5910		9	24 50.21	− 0.04	− 30.22	39 45 56.98	+ 4 36.36	+ 46.8	17 24 19.95	− 3.68	90 57 41.3	+ 5.4
	13	B. A. C. 5950		9	30 22.68	+ 0.02	− 30.23	343 33 54.02	+ 3 46.12	− 16.5	17 29 52.47	− 2.30	34 43 44.8	+16.9
	14	B. A. C. 5951		9	30 28.03	+ 0.02	− 30.23	343 33 54.02	+ 4 28.58	− 16.5	17 29 57.82	− 2.30	34 44 27.3	+16.9
	15	O. Arg. S. 17137–9	9.0	5	37 53.47	0.00	− 30.24	65 57 59.95	+ 3 58.98	+ 2 5.4	17 37 23.23	− 4.48	117 10 25.5	− 1.3
	16	Anonymous	11.0	8	37 59.61	0.00	− 30.24	65 57 59.95	+ 6 30.07	+ 2 5.6	17 37 29.37	− 4.49	117 12 56.8	− 1.3
	17	O. Arg. S. 17166–8	8.0	8	38 58.12	0.00	− 30.24	65 57 59.95	+ 3 27.02	+ 2 5.3	17 38 27.88	− 4.49	117 9 53.5	− 1.2
	18	Lacaille 7520		9	52 38.46	+ 0.03	− 30.26	77 57 57.40	+ 5 32.18	+ 4 18.6	17 52 8.23	− 5.09	129 14 9.4	− 3.2
	19	γ^2 Sagittarii		9	58 44.74	+ 0.01	− **30.21**	69 11 52.08	+ 4 44.81	+ 2 27.2	17 58 14.49	. .	120 25 25.3	− 0.7
	20	22 Camelop., S. P.		9	6 18.89	− 0.52	− 30.28	288 13 52.82	+ 3 51.13	− 2 48.0	6 5 48.09	. .	339 21 17.2	− 0.1
	21	δ Ursæ Minoris		9	11 7.12	+ 1.73	− 30.29	312 13 53.60	+ 3 55.66	− 1 1.7	18 10 38.56	. .	3 23 8.8	+ 0.8
	22	O. Arg. S. 18261	8.5	3	22 7.42	− 0.01	− 30.31	65 25 59.38	+ 5 32.18	+ 2 2.9	18 21 37.10	− 4.67	116 39 55.7	+ 3.7
	23	O. Arg. S. 18262	7.0	5	22 7.47	− 0.01	− 30.31	65 25 59.38	+ 4 49.73	+ 2 2.8	18 21 37.15	− 4.67	116 39 13.1	+ 3.7
	24	1 Aquilæ		9	29 18.49	− 0.04	− **30.42**	47 8 1.35	+ 4 0.92	+ 1 0.7	18 28 48.13	. .	98 19 24.2	− 0.5
	25	B. A. C. 6362		9	37 56.62	+ 0.01	− 30.33	74 31 54.00	+ 3 44.13	+ 3 21.1	18 36 26.30	− 5.11	125 45 20.4	+ 3.6
	26	Lalande 34853		7	39 57.15	− 0.05	− 30.33	6 59 52.75	+ 4 40.12	+ 7.0	18 39 26.77	− 3.37	58 11 1.1	+17.8
	27	51 Cephei, S. P.		5	44 56.98	− 2.42	− 30.34	306 3 55.72	+ 4 25.25	− 1 16.9	6 44 24.22	. .	357 13 25.3	+ 1.9
	28	Lalande 35511		9	55 28.46	− 0.05	− 30.36	12 45 56.68	+ 3 11.98	+ 12.8	18 54 58.05	− 3.55	63 55 42.7	+17.8
	29	ζ Aquilæ		9	0 30.70	− 0.06	− **30.40**	25 8 0.12	+ 3 41.02	+ 26.5	19 0 0.28	. .	76 18 28.8	+ 0.4
	30	τ Draconis (R).			. . . .	. .	. .	214 9 49.20	+ 4 16.72	+ 38.4	. . . .	. .	16 51 36.9	0.0
	31	τ Draconis		8	18 23.07	+ 0.18	− 30.39	325 41 53.32	+ 4 2.81	− 38.4	19 17 52.86	. .	16 51 38.9	+ 2.0
	32	Anonymous	11.0	9	31 42.78	− 0.01	− 30.41	65 21 53.68	+ 7 20.20	+ 2 3.1	19 31 12.36	− 4.86	116 37 38.2	+11.4
	33	Lalande 37527	5.5	6	38 43.97	− 0.05	− 30.42	6 39 52.45	+ 4 35.39	+ 6.7	19 38 13.50	− 3.67	57 50 55.7	+20.3
	34	λ Ursæ Minoris		5	43 39.48	+ 5.38	− 30.43	309 53 56.25	+ 3 47.38	− 1 7.3	19 43 14.43	. .	1 2 57.5	+ 1.7
	35	τ Aquilæ		9	58 54.17	− 0.06	− **30.38**	31 51 55.45	+ 4 14.36	− 35.2	19 58 23.66	. .	83 3 6.2	− 0.1
	36	B. A. C. 6939		9	4 56.33	+ 0.09	− 30.46	331 9 51.05	+ 2 54.31	− 31.1	20 4 25.96	− 3.67	22 18 35.5	+20.6
	37	B. A. C. 7184	8.5	5	15 45.81	+ 4.44	− 30.47	310 3 55.85	+ 4 21.82	− 1 7.0	20 15 19.78	−13.79	1 13 31.9	+18.6
	38	Lalande 39329		9	20 59.27	− 0.06	− 30.48	17 47 58.18	+ 3 40.24	+ 18.2	20 20 28.73	− 3.96	68 58 17.8	+21.1
	39	B. A. C. 7105		9	29 26.34	− 0.01	− 30.49	342 28 0.25	+ 3 2.51	− 17.8	20 28 55.84	− 3.84	33 37 6.2	+21.1
	40	B. A. C. 7153		9	34 24.40	− 0.02	− 30.50	346 15 54.50	+ 4 9.70	− 13.8	20 33 53.88	− 3.87	37 26 11.6	+21.3
	41	Astræa	12.5	9	44 40.29	− 0.04	− 30.52	55 48 1.42	+ 4 27.28	+ 1 23.4	20 44 9.73	. .	107 0 33.3	− 3.5
	42	Lacaille 8760	5.0	9	10 52.92	+ 0.01	− 30.55	78 3 54.78	+ 4 34.88	+ 4 23.2	21 10 22.38	− 5.31	129 19 14.1	+20.3
	43	Σ (P.M.) 2603 (*med.*)		8	22 39.57	+ 0.35	− 30.57	318 59 53.35	+ 3 48.35	− 49.2	21 22 9.35	− 6.33	10 9 13.7	+17.9
	44	ξ Aquarii		9	32 0.10	− 0.05	− **30.62**	47 11 51.75	+ 3 36.28	+ 1 1.3	21 31 29.47	. .	98 22 50.5	+ 0.3
	45	ε Pegasi		9	38 55.31	− 0.06	− **30.53**	29 29 52.98	+ 3 2.22	+ 32.2	21 38 24.65	. .	80 39 48.6	+ 0.3
	46	11 Cephei		9	40 46.13	+ 0.11	− 30.60	328 3 55.62	+ 4 11.31	− 35.2	21 40 15.64	. .	19 13 52.9	+ 0.4
	47	μ Capricorni		9	47 23.62	− 0.05	− **30.63**	52 53 58.00	+ 4 43.03	+ 1 15.0	21 46 52.96	. .	104 6 17.2	+ 1.1
	48	79 Draconis		9	51 59.22	+ 0.15	− 30.61	325 41 53.62	+ 3 45.55	− 38.6	21 51 28.76	. .	16 51 21.8	+ 1.2
	49	α Aquarii (R)			. . . .	. .	. .	140 9 51.00	+ 3 49.81	− 47.2	. . . .	. .	90 53 27.6	+ 1.6
	50	α Aquarii			. . . .	. .	. .	39 41 57.60	+ 4 22.19	+ 47.2	22 0 . .	. .	90 53 28.2	+ 2.2

No.	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*	No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°			′ ″	′ ″	′ ″	′ ″
1	30.14	71.7	72.3		1	− 2.7	− 9.6	. .	− 12.3
6	30.05	73.1	73.8		2	− 2.7	+ 9.7	0.0	+ 7.0
9	30.06	77.3	78.0	ZENITH-POINT CORR.	8	− 3.7	− 15 49.6	. .	− 15 53.3
10	30.04	79.7	80.3	″	9	− 3.6	+ 15 49.5	. .	+ 15 45.9
13	30.06	71.7	70.4	16. One bisection. 1 to 10 + 37.76					
27	30.06	69.2	68.2	10, 20, 34, 46. Three bisections. 11 to 50 + 36.17					
34	30.06	67.7	66.5	7, 41, 48. Four bisections.					
38	30.07	67.3	65.8	21, 27, 37. Five bisections.					
43	30.07	67.3	64.3						

Date and Obs'r.	Number.	Object.	Magnitude.	Threads.	Mean Thread.	Corrections. Inst.	Corrections. Clock.	Zenith Dist. South, from Circles.	Corrections. Instrument.	Corrections. Refraction.	Apparent Right Ascension.	Miscellaneous Correction.	Apparent North-Polar Distance.	Miscellaneous Correction.
August					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
15, R.	1	32 Ursæ Maj., S. P		9	9 54.44	− 0.42	− 30.64	284 35 58.42	+ 3 5.37	− 3 33.1	10 9 23.38	. .	335 41 51.9	+ 0.2
16, W.	2	γ^2 Sagittarii		9	58 46.52	+ 0.06	**− 32.06**	69 11 54.98	+ 4 42.09	+ 2 27.6	17 58 14.61	. .	120 25 25.9	− 0.2
	3	μ Sagittarii		9	7 15.12	+ 0.04	**− 31.94**	59 53 57.70	+ 3 18.14	+ 1 37.0	18 6 43.19	. .	111 5 14.0	− 0.7
	4	δ Ursæ Minoris		5	11 8.52	+ 1.89	− 31.97	312 13 52.30	+ 3 57.71	− 1 1.9	18 10 38.44	. .	3 23 9.3	+ 1.5
	5	51 Cephei, S. P.		5	44 59.28	− 2.49	− 31.98	306 3 55.45	+ 4 26.26	− 1 17.2	6 44 24.81	. .	357 13 25.7	+ 2.5
	6	Lalande 35445		9	54 10.16	+ 0.01	− 31.99	19 11 51.98	+ 3 10.24	+ 19.7	18 53 38.18	− 3.64	70 21 43.1	+17.0
	7	ζ Aquilæ		9	0 32.21	0.00	**− 31.98**	25 7 59.42	+ 3 41.21	+ 26.6	19 0 0.22	. .	76 18 28.4	+ 0.2
	8	Lal. (F.) 3154		5	7 13.73	+ 0.70	− 31.99	316 37 57.75	+ 4 27.54	− 53.2	19 6 42.44	− 1.92	7 47 53.3	+19.7
	9	Lalande 36489		9	16 50.49	+ 0.01	− 31.99	39 17 58.88	+ 3 14.32	+ 46.4	19 16 18.51	− 4.11	90 28 20.8	+15.0
	10	δ Aquilæ		7	20 5.89	+ 0.01	**− 31.94**	35 56 2.12	+ 3 57.59	+ 41.1	19 19 33.90	. .	87 7 2.0	+ 1.0
	11	Anonymous		4	31 24.91	+ 0.04	− 32.00	65 28 1.15	+ 5 10.52	+ 2 3.9	19 30 52.95	− 4.86	116 41 36.8	+11.3
	12	Anonymous		4	31 44.44	+ 0.04	− 32.00	65 28 1.15	+ 1 12.26	+ 2 3.5	19 31 12.48	− 4.86	116 37 38.1	+11.4
	13	α Aquilæ (R)			. . . .	. .	. .	149 35 58.55	+ 4 34.26	− 33.2	. . . .	. .	81 26 21.6	− 1.6
	14	α Aquilæ			. . . .	. .	. .	30 15 56.38	+ 3 33.45	+ 33.2	19 45 . .	. .	81 26 24.2	+ 1.0
	15	B. A. C. 6865[1]		9	54 5.46	+ 0.05	− 32.01	348 13 58.52	+ 4 35.49	− 11.7	19 53 33.50	− 3.56	39 24 43.5	+21.5
	16	α^2 Capricorni		9	12 3.73	+ 0.01	**− 32.15**	51 43 56.65	+ 2 59.10	+ 1 12.0	20 11 31.73	. .	102 54 29.0	+ 1.4
	17	γ Cygni		8	18 33.11	+ 0.02	**− 31.79**	358 55 55.45	+ 4 48.91	− 1.0	20 18 1.11	. .	50 7 4.6	+ 1.2
	18	ϵ Delphini		9	28 7.89	0.00	**− 32.11**	27 53 57.50	+ 4 51.76	+ 30.2	20 27 35.87	. .	79 5 40.7	+ 0.9
19, R.	19	γ^1 Eridani		9	53 7.44	+ 0.08	**− 36.15**	52 39 56.95	+ 3 2.17	+ 1 13.9	3 52 31.40	. .	103 50 34.2	+ 0.9
	20	γ Tauri		9	13 40.63	+ 0.06	**− 36.16**	23 28 0.50	+ 4 46.57	+ 24.5	4 13 4.54	. .	74 39 32.8	+ 1.6
	21	α Tauri (R)			. . . .	. .	. .	157 17 58.15	+ 4 59.90	− 23.4	. . . .	. .	73 43 46.6	+ 0.6
	22	α Tauri			. . . .	. .	. .	22 31 57.00	+ 5 6.26	+ 23.4	4 29 . .	. .	73 43 47.9	+ 1.9
	23	Mars II, C.		9	36 50.23	+ 0.06	− 36.17	17 31 54.38	+ 4 54.28	+ 17.8	4 36 14.12	− 0.28	68 43 27.7	. .
	24	α Camelop.		5	42 54.69	+ 0.17	− 36.18	332 41 55.48	+ 4 6.85	− 28.9	4 42 18.68	. .	23 51 54.6	+ 1.9
	25	ι Aurigæ		9	49 54.22	+ 0.07	**− 36.14**	5 49 52.78	+ 5 7.75	+ 5.8	4 49 18.11	. .	57 1 27.5	+ 1.0
	26	α Aurigæ		9	8 33.76	+ 0.09	− 36.20	352 58 1.25	+ 3 21.63	− 6.8	5 7 57.65	. .	44 7 37.3	+ 1.5
	27	α Orionis		9	49 22.60	0.00	**− 36.31**	31 26 2.98	+ 3 59.16	+ 34.1	5 48 46.36	. .	82 36 57.4	+ 1.3
	28	μ Geminorum		9	16 24.63	+ 0.03	**− 36.25**	16 13 54.98	+ 5 8.37	+ 16.2	6 15 48.39	. .	67 25 40.8	+ 0.8
	29	γ Geminorum		9	31 29.01	+ 0.02	**− 36.27**	22 18 0.90	+ 5 21.84	+ 22.8	6 30 52.74	. .	73 30 6.7	+ 2.2
	30	α Canis Majoris		9	40 32.24	− 0.03	**− 36.31**	55 21 55.00	+ 3 36.22	+ 1 20.0	6 39 55.91	. .	106 33 12.4	+ 0.7
	31	Moon II		9	48 37.47	+ 0.04	− 36.30	18 16 . .	. .	. .	6 48 1.21	−65.59	69 9 . .	. .
	32	ϵ Canis Majoris		8	54 34.53	− 0.03	**− 36.27**	67 36 0.85	+ 3 59.53	+ 2 13.1	6 53 58.19	. .	118 48 34.7	− 0.1
	33	Venus II, S.		9	7 55.29	+ 0.04	− 36.32	17 47 59.90	+ 5 23.16	+ 17.7	7 7 19.01	− 0.61	69 0 2.0	. .
	34	Venus N.			. . . .	. .	. .	17 47 59.90	+ 5 5.57	+ 17.7	. . . .	. .	68 59 44.4	. .
W.	35	α^2 Geminorum			. . . .	. .	. .	6 39 55.95	+ 4 54.11	+ 6.5	7 27 . .	. .	57 51 17.8	+ 1.4
	36	α Canis Majoris		9	33 43.00	− 0.01	**− 36.67**	33 18 2.50	+ 3 21.68	+ 36.0	7 33 6.33	. .	84 28 21.4	+ 1.2
	37	β Geminorum		9	38 40.88	+ 0.04	**− 36.57**	10 29 56.22	+ 4 59.21	+ 10.2	7 38 4.26	. .	61 41 26.8	+ 2.0
	38	α Hydræ		9	22 22.87	− 0.01	**− 36.83**	46 58 2.30	+ 3 25.09	+ 58.3	9 21 46.10	. .	98 8 46.9	− 0.5
20	39	Sun I, N.		9	59 18.62	+ 0.02	− 36.79	26 17 57.48	+ 4 0.11	+ 26.9	9 58 41.85	+64.98	77 28 45.7	. .
	40	Sun S.			. . . .	. .	. .	26 49 55.72	+ 3 41.09	+ 27.5	. . . .	. .	78 0 25.5	. .
	41	D.M.—0°,3298	7.5	8	24 37.73	− 0.06	− 37.24	39 45 57.45	+ 3 25.89	+ 45.6	17 24 0.43	− 3.61	90 56 30.1	+ 5.7
	42	B. A. C. 5910	.	9	24 57.17	− 0.06	− 37.24	39 45 57.45	+ 4 39.44	+ 45.6	17 24 19.87	− 3.61	90 57 43.7	+ 5.7
	43	Anonymous	8.5	8	34 57.29	− 0.04	− 37.25	75 37 59.65	+ 4 54.70	+ 3 31.0	17 34 20.00	− 4.79	126 52 46.6	− 4.8
	44	B. A. C. 5974	.	9	35 28.40	− 0.04	− 37.25	75 37 59.65	+ 5 16.73	+ 3 31.1	17 34 51.11	− 4.79	126 53 8.7	− 4.7
	45	μ Herculis		9	42 28.36	− 0.01	**− 37.18**	11 1 55.00	+ 3 52.86	+ 10.8	17 41 51.09	. .	62 12 19.9	+ 2.0
	46	Lalande 32707		9	48 7.37	− 0.05	− 37.26	32 41 54.58	+ 3 24.74	+ 35.3	17 47 30.06	− 3.57	83 52 15.8	+ 9.7
	47	Weisse (2) 1764		9	56 55.03	− 0.01	− 37.27	5 33 52.12	+ 6 18.23	+ 5.4	17 56 17.75	− 3.02	56 46 37.0	+16.5
	48	Weisse (2) 1797		9	57 54.68	− 0.01	− 37.27	5 33 52.12	+ 0 44.28	+ 5.4	17 57 17.40	− 3 02	56 41 3.0	+16.5
	49	22 Camelop., S. P.		8	6 26.67	− 0.83	− 37.27	288 13 54.12	+ 3 48.39	− 2 44.4	6 5 48.57	. .	339 21 19.3	+ 2.7
	50	δ Ursæ Minoris		5	11 9.72	+ 3.32	− 37.28	312 13 52.50	+ 3 56.48	− 1 0.4	18 10 35.76	. .	3 23 9.8	+ 2.8

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.07	67.2	64.9
2	30.16	71.7	69.8
18	30.15	66.7	65.0
19	29.82	65.2	63.8
26	29.85	68.3	68.3
28	29.84	71.5	72.0
33	29.86	75.3	77.7
35	29.87	76.9	79.3
40	29.85	82.8	84.2
42	29.79	79.2	78.7

For summary of the constants of reduction see page 3.

11, 12, 16, 42, 43, 44, 48. One bisection.
4, 5. Three bisections.
1, 23, 26, 27, 30, 32. Four bisections.

ZENITH-POINT CORR.

	″
1	+ 36.17
2 to 18	+ 37.76
19 to 34	+ 37.14
35 to 40	+ 36.60
41 to 50	+ 37.35

26. Barometer and thermometers read at 5h 25 .

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
23	− 2.1	. .	+ 0.1	− 2.0
33	− 2.7	− 8.8	. .	− 11.5
34	− 2.7	+ 8.8	0.0	+ 6.1
39	− 3.9	+ 15 49.9	. .	+ 15 46.0
40	− 3.9	− 15 49.9	. .	− 15 53.8

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
August 20, W.	1	η Serpentis		5	15 50.41	− 0.07	**− 37.30**	41 43 55.55	+ 4 29.04	+ 49.2	18 15 13.06	. .	92 55 35.0	+ 2.5
	2	1 Aquilæ		9	29 25.39	− 0.07	**− 37.34**	47 7 57.75	+ 4 7.95	+ 59.4	18 28 48.03	. .	98 19 26.3	+ 1.8
	3	α Lyræ		9	33 34.90	+ 0.01	**− 37.19**	0 9 50.85	+ 3 5.06	+ 0.2	18 32 57.61	. .	51 19 17.3	+ 1.7
	4	51 Cephei, S. P.		8	45 7.76	− 4.48	− 37.30	306 4 . .	. .	. .	6 44 25.98	. .	2 47 . .	. .
	5	σ Sagittarii		9	48 35.29	− 0.07	**− 37.34**	65 14 . .	. .	. .	18 47 57.91	. .	116 26 . .	. .
	6	d Sagittarii		9	11 22.28	− 0.08	**− 37.35**	57 58 . .	. .	. .	19 10 44.87	. .	109 10 . .	. .
	7	δ Aquilæ		9	20 11.37	− 0.08	**− 37.36**	35 56 . .	. .	. .	19 19 33.96	. .	87 7 . .	. .
	8	κ Aquilæ		9	31 11.07	− 0.08	**− 37.37**	46 6 . .	. .	. .	19 30 33.65	. .	97 17 . .	. .
	9	λ Ursæ Minoris		7	43 39.00	+10.76	− 37.35	309 54 . .	. .	. .	19 43 12.41	. .	1 3 . .	. .
	10	61¹ Cygni		9	2 15.39	0.00	**− 37.35**	0 40 . .	. .	. .	21 1 37.98	. .	51 50 . .	. .
	11	ζ Cygni		9	8 33.88	− 0.03	**− 37.51**	9 4 . .	. .	. .	21 7 56.43	. .	60 15 . .	. .
	12	1 Pegasi		9	17 16.60	− 0.06	**− 37.42**	19 30 . .	. .	. .	21 16 39.12	. .	70 42 . .	. .
	13	μ Capricorni		9	47 30.49	− 0.08	**− 37.44**	52 54 . .	. .	. .	21 46 52.96	. .	104 6 . .	. .
	14	α Aquarii		9	0 22.20	− 0.08	**− 37.49**	39 42 . .	. .	. .	21 59 44.66	. .	90 53 . .	. .
	15	Schwerd 1302		5	3 35.94	+ 3.78	− 37.46	311 37 58.70	+ 3 1.07	− 1 2.2	22 3 2.26	−18.74	2 46 18.8	+17.1
	16	θ Aquarii		9	11 15.13	− 0.08	**− 37.41**	47 10 . .	. .	. .	22 10 37.58	. .	98 22 . .	. .
	17	π Aquarii		9	19 53.84	− 0.08	**− 37.46**	38 1 54.50	+ 4 9.83	+ 43.5	22 19 16.29	. .	89 13 9.0	+ 1.2
22, W.	18	γ² Sagittarii		9	58 53.82	+ 0.07	**− 39.45**	69 11 51.22	+ 4 49.33	+ 2 24.5	17 58 14.53	. .	120 25 26.3	0.0
	19	μ Sagittarii		9	7 22.52	+ 0.04	**− 39.41**	59 54 . .	. .	. .	18 6 43.19	. .	111 5 . .	. .
	20	δ Ursæ Minoris		8	11 14.22	+ 1.89	− 39.37	312 14 . .	. .	. .	18 10 36.74	. .	3 23 . .	. .
	21	η Serpentis		9	15 52.39	+ 0.01	**− 39.39**	41 44 . .	. .	. .	18 15 13.02	. .	92 56 . .	. .
	22	1 Aquilæ		9	29 27.34	+ 0.01	**− 39.39**	47 8 . .	. .	. .	18 28 47.95	. .	98 19 . .	. .
	23	α Lyræ		9	33 37.04	0.00	**− 39.36**	0 10 . .	. .	. .	18 32 57.64	. .	51 19 . .	. .
	24	51 Cephei, S. P.		6	45 10.20	− 2.51	− 39.42	306 4 . .	. .	. .	6 44 28.27	. .	357 13 . .	. .
	25	β Lyræ		9	46 23.82	− 0.01	**− 39.32**	5 36 . .	. .	. .	18 45 44.39	. .	56 46 . .	. .
	26	δ Aquilæ		9	20 13.41	− 0.02	**− 39.48**	35 56 . .	. .	. .	19 19 33.92	. .	87 7 . .	. .
	27	Schwerd 1175		6	22 11.08	+ 2.00	− 39.47	311 41 50.18	+ 5 4.23	− 1 2.2	19 21 33.61	+ 0.52	2 52 13.4	+21.0
	28	γ Cygni		9	18 40.70	− 0.01	**− 39.40**	358 56 . .	. .	. .	20 18 1.14	. .	50 7 . .	. .
	29	π Capricorni		9	21 14.77	+ 0.02	**− 39.60**	57 24 . .	. .	. .	20 20 35.24	. .	108 36 . .	. .
	30	ε Delphini		9	28 15.39	− 0.02	**− 39.60**	27 54 . .	. .	. .	20 27 35.81	. .	79 6 . .	. .
	31	μ Aquarii		9	46 58.21	0.00	**− 39.66**	48 14 . .	. .	. .	20 46 18.62	. .	99 25 . .	. .
	32	Cygni		9	53 27.79	− 0.01	− 39.60	358 6 . .	. .	. .	20 52 48.18	. .	49 7 . .	. .
	33	61¹ Cygni		9	2 17.66	− 0.01	**− 39.61**	0 40 . .	. .	. .	21 1 38.04	. .	51 50 . .	. .
	34	ζ Cygni		9	8 35.96	− 0.02	**− 39.60**	9 4 . .	. .	. .	21 7 56.32	. .	60 15 . .	. .
R.	35	Venus II, S.		9	22 26.96	+ 0.06	− 39.88	18 3 54.90	+ 3 47.12	+ 18.2	7 21 47.14	− 0.59	69 14 21.4	. .
	36	Venus N.		.	. . .	. .	. .	18 3 54.90	+ 3 27.83	+ 18.2	. . . .	. .	69 14 2.1	. .
	37	α² Geminorum		9	27 42.76	+ 0.07	**− 39.88**	6 39 52.92	+ 4 57.01	+ 6.6	7 27 2.95	. .	57 51 17.7	+ 1.1
	38	α Canis Minoris		9	33 46.27	+ 0.07	**− 39.96**	33 18 0.55	+ 3 21.92	+ 36.5	7 33 6.45	. .	84 28 20.2	+ 0.1
	39	β Geminorum		9	38 44.18	+ 0.07	**− 39.83**	10 29 51.52	+ 5 2.41	+ 10.4	7 38 4.35	. .	61 41 25.5	+ 0.4
	40	Mercury II, C.		9	43 50.06	+ 0.09	− 40.04	23 21 51.78	+ 4 29.65	+ 23.8	9 43 10.11	− 0.18	74 33 6.4	. .
23	41	Sun I, S.		9	10 26.48	+ 0.10	− 40.07	27 49 54.12	+ 4 19.27	+ 29.1	10 9 46.51	+64.80	79 1 3.7	. .
	42	Sun II, N.		9	12 36.09	+ 0.10	− 40.07	27 17 54.95	+ 4 34.89	+ 28.4	10 11 56.12	−64.81	78 29 19.4	. .
	43	α Ursæ Majoris		9	57 3.28	+ 0.24	− 40.12	336 25 56.75	+ 4 44.91	− 23.8	10 56 23.40	. .	27 36 39.1	+ 2.3
	44	δ Leonis		3	8 28.68	+ 0.10	**− 40.24**	17 38 . .	. .	. .	11 7 48.64	. .	68 50 . .	. .
	45	α² Can. Ven.		8	51 9.16	+ 0.13	**− 40.15**	359 51 51.88	+ 4 12.90	− 0.1	12 50 29.04	. .	51 2 25.9	+ 1.3
	46	Polaris, S. P.		8	16 56.19	− 6.91	− 40.28	307 31 51.35	+ 3 29.70	− 1 10.7	1 16 9.00	. .	358 40 31.5	− 0.1
	47	B. A. C. 5833		9	12 20.70	+ 0.12	− 40.31	69 59 51.28	+ 5 16.15	+ 2 31.1	17 11 40.51	− 4.36	121 13 59.7	− 5.4
	48	B. A. C. 5887		9	18 44.80	+ 0.19	− 40.32	326 55 53.20	+ 3 8.65	− 35.9	17 18 4.67	− 0.43	18 4 47.1	+17.7
	49	α Ophiuchi		9	30 8.20	+ 0.03	**− 40.29**	26 9 47.05	+ 4 22.63	+ 27.3	17 29 27.90	. .	77 20 58.2	+ 0.2
	50	B. A. C. 5957		9	32 36.79	+ 0.13	− 40.33	71 1 49.95	+ 4 11.46	+ 2 40.2	17 31 56.59	− 4.53	122 15 2.8	− 3.6

No.	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*	No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°			′ ″	′ ″	′ ″	′ ″
1	29.80	76.8	75.4		35	− 2.6	− 9.6	. .	− 12.2
17	29.80	72.7	70.8	ZENITH-POINT CORR.	36	− 2.6	+ 9.7	0.0	+ 7.1
18	30.00	78.1	77.7	″	40	− 2.7	. .	− 0.1	− 2.8
24	30.01	75.8	75.3		41	− 4.1	− 15 52.1	. .	− 15 56.2
34	30.04	72.9	69.7	15, 27. Three bisections. 1 to 17 + 37.35	42	− 4.0	+ 15 52.1	. .	+ 15 48.1
35	30.17	74.1	76.5	40. Four bisections. 18 to 27 + 38.00					
39	30.18	75.4	77.9	46. Five bisections. 35 to 46 + 37.21					
40	30.20	80.6	82.9	47 to 50 + 36.35					
42	30.19	81.8	83.8						
43	30.20	83.7	85.8						
46	30.16	85.3	86.7						
47	30.13	79.3	78.9						

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
August 23, R.	1	Anonymous	8.0	9	38 25.28	+ 0.11	— 40.33	67 3 48.55	+ 3 57.62	+ 2 10.5	17 37 45.06	— 4.41	118 16 17.9	— 1.7
	2	μ Herculis	.	9	42 31.37	+ 0.02	— **40.27**	11 1 55.02	+ 3 51.94	+ 10.9	17 41 51.05	. .	62 12 19.1	+ 1.5
	3	Weisse (2) 1591	.	9	51 34.32	+ 0.01	— 40.34	16 19 48.85	+ 4 18.61	+ 16.3	17 50 53.99	— 3.18	67 30 45.0	+14.4
	4	γ^3 Sagittarii	.	9	58 54.76	+ 0.11	— **40.45**	69 11 49.88	+ 4 48.24	+ 2 25.6	17 58 14.52	. .	120 25 24.9	— 1.4
	5	22 Camelop., S. P.	.	9	6 29.30	— 0.40	— 40.35	288 13 49.78	+ 3 51.54	— 2 46.4	6 5 48.55	. .	339 21 16.1	— 0.1
	6	δ Ursæ Minoris	.	8	11 14.40	+ 1.33	— 40.36	312 13 45.60	+ 4 1.16	— 1 1.1	18 10 35.37	. .	3 23 6.9	+ 0.3
	7	B. A. C. 6251	.	9	19 21.30	+ 0.01	— 40.36	17 5 52.82	+ 4 13.65	+ 17.2	18 18 40.95	— 3.35	68 16 44.9	+16.1
	8	O. Arg. S. 18261	.	5	22 17.19	+ 0.10	— 40.37	65 25 54.52	+ 5 36.64	+ 2 1.8	18 21 36.92	— 4.58	116 39 54.2	+ 3.5
	9	O. Arg. S. 18262	.	6	22 17.40	+ 0.10	— 40.37	65 25 54.52	+ 4 53.56	+ 2 1.7	18 21 37.13	— 4.58	116 39 11.0	+ 3.5
	10	B. A. C. 6362	.	9	37 6.41	+ 0.13	— 40.38	74 31 50.28	+ 3 50.31	+ 3 19.6	18 36 26.16	— 5.01	125 45 21.4	+ 2.5
	11	51 Cephei, S. P.	.	9	45 10.40	— 1.78	— 40.38	306 3 51.65	+ 4 28.49	— 1 16.4	6 44 28.24	. .	357 13 24.9	+ 3.3
	12	Lalande 35421	.	9	53 41.07	0.00	— 40.39	21 37 52.90	+ 2 58.15	+ 22.3	18 53 0.68	— 3.61	72 47 34.5	+17.5
	13	Lalande 35511	.	8	55 38.45	0.00	— 40.39	12 45 52.82	+ 3 14.30	+ 12.7	18 54 58.06	— 3.45	63 55 41.0	+19.2
	14	d Sagittarii	.	9	11 25.30	+ 0.06	— **40.54**	57 57 55.25	+ 3 49.[illegible]5	+ 1 29.6	19 10 44.96	. .	109 9 36.0	— 1.1
	15	τ Draconis (R)	.	.	. . . .	. .	. .	214 9 46.92	+ 4 20.72	+ 38.2	. . . .	. .	16 51 35.4	+ 0.7
	16	τ Draconis	.	5	18 32.84	+ 0.13	— 40.41	325 41 45.98	+ 4 7.52	— 38.2	19 17 52.56	. .	16 51 36.5	+ 1.8
	17	α^2 Capricorni	.	9	12 12.02	+ 0.04	— **40.49**	51 43 50.70	+ 3 4.68	+ 1 11.6	20 11 31.61	. .	102 54 28.2	+ 0.7
	18	γ Cygni	.	9	18 41.61	— 0.01	— **40.32**	358 55 54.38	+ 4 49.77	— 1.0	20 18 1.15	. .	50 7 4.4	+ 2.9
	19	π Capricorni	.	9	21 15.71	+ 0.05	— **40.57**	57 23 51.60	+ 4 3.95	+ 1 28.3	20 20 35.30	. .	108 35 45.1	+ 0.1
	20	ε Delphini	.	9	28 16.19	0.00	— **40.42**	27 53 52.68	+ 4 56.08	+ 30.0	20 27 35.72	. .	79 5 40.0	+ 1.2
	21	α Cygni (R)	.	.	. . . .	. .	. .	185 53 48.72	+ 4 10.18	+ 5.9	. . . .	. .	45 8 16.4	+ 0.5
	22	α Cygni	.	.	. . . .	. .	. .	353 57 55.60	+ 4 6.18	— 5.9	20 37 . .	. .	45 8 17.1	+ 1.2
	23	12-Y. Cat. 1879	.	8	53 41.71	+ 0.22	— 40.50	318 43 52.00	+ 3 58.22	— 49.6	20 53 1.43	. .	9 53 21.8	+ 1.9
	24	σ^3 Ursæ Maj., S. P.	.	9	0 37.16	— 0.31	— 40.51	286 29 49.00	+ 3 36.36	— 3 8.0	8 59 56.34	. .	337 36 38.6	— 2.2
	25	61^1 Cygni	.	8	2 18.44	— 0.03	— **40.37**	0 39 49.60	+ 3 30.00	+ 0.7	21 1 37.90	. .	51 49 41.5	+ 1.2
	26	Anonymous	12.5	9	19 10.93	+ 0.05	— 40.53	60 47 57.08	+ 6 21.61	+ 1 41.5	21 18 30.45	— 4.73	112 2 21.4	+22.1
	27	Schwerd 1292	9.3	8	49 30.75	+ 0.61	— 40.57	312 49 49.45	+ 4 20.14	— 1 1.0	21 48 50.79	—12.80	3 59 29.8	+19.1
	28	Schwerd 1302	9.0	9	3 37.21	+ 0.91	— 50.58	311 37 54.50	+ 3 7.39	— 1 3.7	22 2 56.54	—18.60	2 46 19.4	+18.2
	29	η Aquarii	.	9	29 59.52	— 0.01	— **40.69**	39 31 51.72	+ 4 24.48	+ 47.0	22 29 18.89	. .	90 43 24.4	+ 1.2
	30	Irene	10.5	9	33 56.16	+ 0.04	— 40.62	61 23 55.75	+ 5 16.19	+ 1 44.2	22 33 15.58	. .	112 37 17.3	— 4.0
	31	ι Cephei	.	9	46 12.73	— 0.01	— 40.64	333 15 53.28	+ 3 27.94	— 28.6	22 45 32.08	. .	24 25 13.8	+ 1.3
	32	Sophrosyne	13.0	9	50 16.23	+ 0.01	— 40.64	49 59 51.62	+ 4 40.45	+ 1 7.9	22 49 35.60	. .	101 12 1.2	— 4.4
	33	Anonymous	12.0	9	57 48.96	+ 0.01	— 40.65	47 33 53.55	+ 6 30.68	+ 1 2.4	22 57 8.32	— 4.35	98 47 47.8	+27.6
	34	ο Cephei	.	9	14 30.87	0.00	— 40.67	331 21 48.98	+ 4 27.05	— 31.0	23 13 50.20	. .	22 32 6.2	+ 1.3
	35	θ Piscium	.	9	22 40.84	— 0.02	— **40.66**	33 6 . .	. . . .	. .	23 22 0.14	. .	84 16 . .	. .
	36	λ Draconis, S. P.	.	7	25 0.59	— 0.28	— 40.68	288 51 49.25	+ 3 39.95	— 2 44.6	11 24 19.63	. .	339 59 5.8	+ 1.1
	37	ι Piscium	.	9	34 34.70	— 0.01	— **40.65**	33 49 49.25	+ 3 53.51	+ 38.3	23 33 53.99	. .	85 0 42.3	+ 1.6
	38	α Andromedæ (R)	.	.	. . . .	. .	. .	169 27 53.52	+ 4 59.75	— 10.5	. . . .	. .	61 33 38.4	— 0.1
	39	α Andromedæ	.	.	. . . .	. .	. .	10 23 48.60	+ 3 20.96	+ 10.5	0 2 . .	. .	61 33 41.3	+ 2.8
24, W.	40	51 Cephei, S. P.	.	7	45 15.04	— 4.32	— 41.83	306 3 53.32	+ 4 25.73	— 1 16.2	6 44 28.89	. .	357 13 24.0	+ 2.6
	41	Lalande 35445	.	9	54 19.91	+ 0.02	— 41.83	19 11 49.42	+ 3 11.40	+ 19.5	18 53 38.10	— 3.55	70 21 41.5	+18.2
	42	ζ Aquilæ	.	9	0 41.96	+ 0.01	— **41.82**	25 7 55.68	+ 3 47.02	+ 26.2	19 0 0.14	. .	76 18 29.1	+ 1.9
	43	Lalande 35851	.	9	3 22.54	+ 0.01	— 41.84	22 7 56.32	+ 4 24.90	+ 22.8	19 2 40.71	— 3.65	73 19 5.2	+18.2
	44	Lal. (F.) 3154	.	4	7 22.68	+ 1.30	— 41.84	316 37 55.52	+ 4 27.77	— 52.5	19 6 42.14	— 0.89	7 47 52.0	+21.8
	45	d Sagittarii	.	.	. . . .	. .	. .	57 57 58.08	+ 3 49.68	+ 1 29.2	19 11 . .	. .	109 9 38.2	+ 1.1
	46	B. A. C. 6640	.	8	18 49.80	+ 0.18	— 41.84	341 25 57.60	+ 2 25.86	— 18.7	19 18 8.14	— 2.98	32 34 26.0	+23.0
	47	Schwerd 1175	.	4	22 11.22	+ 3.82	— 41.85	311 41 49.58	+ 5 4.98	— 1 2.4	19 21 33.19	+ 1.23	2 52 13.4	+21.5
	48	κ Aquilæ	.	9	31 15.49	— 0.01	— **41.90**	46 5 55.32	+ 3 58.12	+ 58.1	19 30 33.63	. .	97 17 12.7	+ 1.2
	49	Lalande 37527	.	9	38 55.23	+ 0.04	— 41.86	6 39 52.58	+ 4 34.48	+ 6.6	19 38 13.41	— 3.58	57 50 54.9	+22.2
	50	γ Aquilæ	.	9	41 21.88	0.00	— **41.82**	28 29 51.18	+ 3 32.41	+ 30.4	19 40 40.02	. .	79 40 15.2	+ 2.0

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
4	30.14	77.9	76.3
14	30.16	73.8	71.7
22	30.18	70.3	67.5
28	30.17	67.4	65.7
39	30.19	64.9	63.6
40	30.25	77.3	76.3

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

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1 to 39 + 36.35

40 to 50 + 37.34

7, 32. One bisection.

5, 31, 34, 38, 40. Three bisections.

6, 14, 20, 37. Four bisections.

11, 23, 27. 28. Five bisections.

28. Barometer and thermometers read at $22^h\ 15^m$.

39. Barometer and thermometers read at $0^h\ 10^m$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
ugust					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
., W.	1	λ Ursæ Minoris .	.	5	43 40. 34	+10. 64	— 41. 86	309 53 56. 68	+ 3 44. 81	— 1 6. 6	19 43 9. 12	. .	1 2 56. 1	+ 2. 9
	2	Lalande 39329 .	.	1	20 10. 68	+ 0. 02	— 41. 88	17 47 57. 72	+ 3 39. 66	+ 18. 0	20 20 28. 82	— 3. 92	68 58 16. 6	+22. 9
	3	α Cygni (R) . .	.	.	. . . .	. .	. .	185 53 50. 10	+ 4 9. 91	+ 5. 9	. . . .	. .	45 8 15. 3	— 0. 3
	4	α Cygni . . .	.	.	. . . .	. .	. .	353 57 54. 85	+ 4 6. 92	— 5. 9	20 37 . .	. .	45 8 17. 1	+ 1. 5
	5	Weisse (2) 1483 .	.	8	47 47. 79	+ 0. 01	— 41. 89	21 15 51. 62	+ 2 13. 79	+ 21. 9	20 47 5. 91	— 4. 06	72 24 48. 5	+23. 6
	6	Lalande 40682 .	.	9	55 47. 33	0. 00	— 41. 90	19 57 55. 95	+ 2 55. 56	+ 20. 5	20 55 5. 43	— 4. 07	71 7 33. 2	+23. 9
	7	ζ Cygni . . .	.	9	8 38. 28	+ 0. 02	— **41.96**	9 3 51. 95	+ 4 52. 31	+ 9. 0	21 7 56. 40	. .	60 15 14. 5	+ 0. 7
	8	1 Pegasi . . .	.	9	17 20. 97	0. 00	— **41.85**	19 29 52. 58	+ 5 17. 27	+ 20. 0	21 16 39. 06	. .	70 41 51. 0	+ 1. 2
	9	Σ (P.M.)2603(*med.*)	.	9	22 50. 44	+ 0. 87	— 41. 91	318 59 48. 68	+ 3 48. 28	— 48. 8	21 22 9. 40	— 6. 09	10 9 9. 4	+21. 2
	10	ζ Aquarii . . .	.	9	32 11. 40	— 0. 02	— **41.92**	47 11 51. 85	+ 3 36. 52	+ 1 0. 8	21 31 29. 46	. .	98 22 50. 4	+ 0. 7
	11	Schwerd 1292 .	.	7	49 33. 16	+ 2. 42	— 41. 93	312 49 51. 85	+ 4 17. 12	— 1 0. 6	21 48 53. 65	—12. 75	3 59 29. 6	+19. 4
, E.	12	μ Herculis . . .	.	9	42 19. 41	— 0. 01	— **28.32**	11 1 50. 40	+ 3 57. 04	+ 11. 0	17 41 51. 01	. .	62 12 19. 6	+ 2. 2
	13	Weisse (2) 1591 .	.	9	51 22. 26	— 0. 02	— 28. 39	16 19 49. 02	+ 4 20. 59	+ 16. 5	17 50 53. 85	— 3. 15	67 30 47. 3	+14. 6
	14	Weisse (2) 1764 .	.	9	56 46. 04	+ 0. 01	— 28. 38	5 33 48. 72	+ 6 20. 86	+ 5. 6	17 56 17. 67	— 2. 92	56 46 36. 4	+17. 1
	15	Weisse (2) 1797 .	.	9	57 45. 68	+ 0. 01	— 28. 38	5 33 48. 72	+ 0 47. 01	+ 5. 5	17 57 17. 31	— 2. 92	56 41 2. 4	+17. 2
	16	δ Ursæ Minoris .	.	6	10 58. 88	+ 3. 81	— 28. 38	312 13 48. 35	+ 4 1. 08	— 1 1. 4	18 10 34. 31	. .	3 23 9. 2	+ 2. 9
	17	η Serpentis . . .	.	9	15 41. 48	— 0. 07	— **28.44**	41 43 50. 68	+ 4 33. 14	+ 50. 0	18 15 13. 03	. .	92 55 35. 0	+ 2. 7
	18	B. A. C. 6275 .	.	9	22 46. 18	— 0. 08	— 28. 38	71 49 53. 22	+ 8 19. 56	+ 2 50. 0	18 22 17. 72	— 4. 80	123 7 24. 0	+ 1. 6
	19	B. A. C. 6285 .	.	9	23 49. 79	— 0. 08	— 28. 38	71 49 53. 22	+ 4 53. 24	+ 2 49. 3	18 23 21. 33	— 4. 81	123 3 57. 0	+ 1. 7
	20	Piazzi XVIII, 87 .	.	9	25 8. 80	— 0. 08	— 28. 38	71 49 53. 22	+ 2 12. 07	+ 2 49. 0	18 24 40. 34	— 4. 81	123 1 15. 5	+ 1. 9
	21	1 Aquilæ . . .	.	9	29 16. 41	— 0. 08	— **28.40**	47 7 56. 95	+ 4 7. 23	+ 1 0. 4	18 28 47. 95	. .	98 19 25. 8	+ 1. 5
	22	D.M.+80°, 221, S.P.	.	5	38 24. 41	— 1. 73	— 28. 37	299 43 54. 80	+ 4 27. 95	— 1 37. 4	6 37 54. 31	— 6. 14	350 53 6. 6	+19. 0
	23	D.M.+80°, 222, S.P.	.	5	38 49. 54	— 1. 72	— 28. 37	299 43 54. 80	+ 2 1. 57	— 1 37. 6	6 38 19. 45	— 6. 11	350 50 40. 0	+19. 0
	24	51 Cephei, S.P. . .	.	6	45 1. 22	— 5. 11	— 28. 37	306 3 50. 90	+ 4 28. 52	— 1 16. 6	6 44 27. 74	. .	357 13 24. 0	+ 2. 7
	25	Lalande 35421 .	.	9	53 29. 04	— 0. 04	— 28. 37	21 37 53. 30	+ 3 0. 36	+ 22. 3	18 53 0. 63	— 3. 58	72 47 37. 2	+17. 8
	26	ζ Aquilæ . . .	.	9	0 28. 53	— 0. 04	— **28.35**	25 7 53. 52	+ 3 47. 38	+ 26. 4	19 0 0. 12	. .	76 18 28. 5	+ 1. 4
	27	D.M.+21°, 3702.	9. 8	9	9 34. 71	— 0. 03	— 28. 37	17 37 53. 88	+ 3 52. 72	+ 17. 9	19 9 6. 31	— 3. 59	68 48 25. 7	+19. 5
	28	Mer. C. Z. 129, 87	9. 5	9	13 35. 36	— 0. 09	— 28. 36	62 23 52. 28	+ 4 19. 16	+ 1 47. 2	19 13 6. 91	— 4. 64	113 36 19. 8	+ 9. 8
	29	Schwerd 1175 .	.	5	21 55. 81	+ 4. 41	— 28. 36	311 41 48. 35	+ 5 3. 44	— 1 2. 8	19 21 31. 86	+ 1. 60	2 52 10. 2	+21. 8
	30	Schwerd 1176 .	.	5	26 30. 02	+ 3. 64	— 28. 36	312 17 52. 75	+ 3 30. 10	— 1 1. 6	19 26 5. 30	+ 0. 33	3 26 42. 4	+21. 9
	31	γ Aquilæ (R) . .	.	.	. . . .	. .	. .	151 21 51. 70	+ 4 47. 62	— 30. 6	. . . .	. .	79 40 12. 5	— 0. 5
	32	γ Aquilæ . . .	.	.	. . . .	. .	. .	28 29 50. 45	+ 3 31. 61	+ 30. 6	19 41 . .	. .	79 40 13. 9	+ 0. 9
	33	ε Draconis (R) .	.	.	. . . .	. .	. .	210 59 48. 45	+ 4 17. 16	+ 33. 9	. . . .	. .	20 1 41. 7	— 1. 4
	34	ε Draconis . . .	.	.	. . . .	. .	. .	328 51 49. 58	+ 4 8. 51	— 33. 9	19 49 . .	. .	20 1 45. 4	+ 2. 3
	35	ε Delphini . . .	.	9	28 4. 14	— 0. 06	— **28.32**	27 53 49. 80	+ 4 59. 40	+ 29. 9	20 27 35. 74	. .	79 5 40. 3	+ 1. 8
	36	Weisse (2) 1193 .	.	9	36 25. 77	+ 0. 05	— 28. 34	355 47 55. 10	+ 3 2. 61	— 4. 1	20 35 57. 48	— 3. 81	46 57 14. 8	+24. 5
	37	μ Aquarii . . .	.	9	46 46. 99	— 0. 09	— **28.35**	48 13 51. 68	+ 4 7. 01	+ 1 3. 3	20 46 18. 56	. .	99 25 23. 2	0. 0
	38	ν Cygni . . .	.	9	53 16. 47	+ 0. 04	— **28.35**	358 5 52. 70	+ 4 49. 90	— 1. 8	20 52 48. 17	. .	49 17 2. 0	+ 1. 0
	39	B. A. C. 7286 .	.	9	55 23. 04	— 0. 09	— 28. 34	77 47 55. 02	+ 0 42. 98	+ 4 14. 9	20 54 54. 61	— 5. 35	128 59 14. 1	+17. 5
	40	B. A. C. 7292 .	.	5	55 55. 39	— 0. 09	— 28. 34	77 47 55. 02	+ 6 52. 03	+ 4 17. 1	20 55 26. 96	— 5. 35	129 5 25. 3	+17. 5
, S.	41	b Ophiuchi . . .	.	9	19 38. 47	— 0. 10	— **28.04**	62 51 50. 18	+ 3 54. 53	+ 1 48. 6	17 19 10. 43	. .	114 3 54. 5	+ 0. 9
	42	α Ophiuchi . . .	.	9	29 55. 83	— 0. 06	— **27.87**	26 9 49. 05	+ 4 21. 80	+ 27. 5	17 29 27. 83	. .	77 20 59. 5	+ 1. 7
	43	μ Herculis . . .	.	9	42 18. 91	— 0. 02	— **27.83**	11 1 51. 38	+ 3 55. 46	+ 11. 0	17 41 40. 94	. .	62 12 19. 0	+ 1. 7
	44	δ Ursæ Minoris .	.	8	10 58. 34	+ 3. 90	— 27. 95	312 13 53. 82	+ 3 54. 44	— 1 1. 5	18 10 34. 29	. .	3 23 8. 0	+ 1. 8
	45	1 Aquilæ . . .	.	9	29 16. 03	— 0. 10	— **28.02**	47 7 57. 12	+ 4 6. 34	+ 1 0. 5	18 28 47. 97	. .	98 19 25. 2	+ 1. 0
	46	α Lyræ	.	9	33 25. 57	+ 0. 02	— **27.99**	0 9 50. 38	+ 3 3. 18	+ 0. 2	18 32 57. 63	. .	51 19 15. 0	+ 0. 4
	47	B. A. C. 6523 .	.	9	0 37. 28	— 0. 11	— 27. 97	79 25 54. 35	+ 3 34. 25	+ 4 52. 9	19 0 9. 20	— 5. 32	130 40 42. 7	+ 3. 7
	48	Schwerd 1175 .	.	8	21 54. 92	+ 4. 46	— 27. 98	311 41 51. 00	+ 5 3. 73	— 1 2. 9	19 21 31. 40	+ 1. 97	2 52 13. 0	+22. 0
	49	Schwerd 1176 .	.	5	26 30. 02	+ 3. 66	— 27. 98	312 17 55. 40	+ 3 29. 25	— 1 1. 7	19 26 5. 70	+ 0. 63	3 26 44. 1	+22. 2
	50	B. A. C. 7025 .	.	9	19 43. 76	— 0. 13	— 28. 00	76 31 51. 72	+ 4 53. 59	+ 3 52. 6	20 19 15. 63	— 5. 31	127 46 59. 1	+13. 7

Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*	No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
in.	°	°			′ ″	′ ″	′ ″	′ ″
30. 26	76. 0	74. 3						
30. 27	72. 6	71. 4	ZENITH-POINT CORR.					
30. 28	78. 0	75. 9						
30. 31	74. 0	72. 0	″					
30. 25	77. 8	76. 2	10, 16, 22, 23, 31, 32, 33, 34, 39, 40, 47. } One bisection. 1 to 11 + 37. 34					
30. 26	71. 9	69. 5	11, 29, 30, 44, 48, 49. Three bisections. 12 to 40 + 37. 36					
			41 to 50 + 36. 54					
			35. Barometer and thermometers read at 20h 18m.					

DATE. AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
August 26, S.	1	B. A. C. 7143		9	33 52.88	− 0.06	− 28.00	15 7 56.08	+ 3 7.19	+ 15.4	20 33 24.82	− 3.94	66 17 39.9	+23.9
	2	Weisse (2) 1193		9	36 25.46	+ 0.02	− 28.01	355 47 54.42	+ 3 2.50	− 4.1	20 35 57.47	− 3.80	46 57 14.0	+24.7
	3	B. A. C. 7212		9	43 55.54	− 0.13	− 28.01	77 5 55.50	+ 4 41.88	+ 4 3.1	20 43 27.40	− 5.33	128 21 1.7	+16.2
	4	B. A. C. 7286		9	55 22.50	− 0.13	− 28.01	77 47 56.70	+ 0 38.13	+ 4 15.7	20 54 54.36	− 5.35	128 59 11.7	+17.4
	5	B. A. C. 7292		9	55 55.02	− 0.13	− 28.01	77 47 56.70	+ 6 50.17	+ 4 17.8	20 55 26.88	− 5.35	129 5 25.9	+17.4
	6	Lacaille 8760		9	10 50.46	− 0.13	− 28.01	78 3 51.48	+ 4 40.96	+ 4 22.8	21 10 22.32	− 5.34	129 19 16.4	+19.0
	7	1 Pegasi		9	17 7.11	− 0.07	**− 27.92**	19 29 50.80	+ 5 18.85	+ 20.2	21 16 39.03	. .	70 41 51.0	+ 1.6
	8	ξ Aquarii		9	31 57.56	− 0.12	**− 27.97**	47 11 51.05	+ 3 36.93	+ 1 1.2	21 31 29.42	. .	98 22 50.4	+ 0.8
	9	ε Pegasi		9	38 52.83	+ 0.09	**− 28.16**	29 29 50.40	+ 3 4.54	+ 32.1	21 38 24.90	. .	80 39 48.2	+ 1.6
	10	Schwerd 1294		5	49 53.53	+ 3.38	− 28.02	312 21 50.98	+ 4 58.05	− 1 1.9	21 49 28.89	−13.89	3 32 8.3	+20.1
	11	B. A. C. 7749 (R)		.	. . . .	. .	. .	198 37 54.55	+ 5 25.65	+ 19.2	. . . .	. .	32 22 41.8	+22.7
	12	B. A. C. 7749		.	. . . .	. .	. .	341 11 50.92	+ 4 52.71	− 19.2	22 7 . .	. .	32 22 45.6	+22.7
	13	B. A. C. 7923 (R)		.	. . . .	. .	. .	170 37 53.42	+ 4 58.38	− 9.3	. . . .	. .	60 23 38.7	+24.7
	14	B. A. C. 7923		.	. . . .	. .	. .	9 11 50.32	+ 5 18.48	+ 9.3	22 38 . .	. .	60 23 39.3	+24.7
R.	15	β Geminorum		9	38 32.48	+ 0.08	**− 28.04**	10 29 49.70	+ 5 3.94	+ 10.5	7 38 4.52	. .	61 41 25.3	− 0.1
	16	Venus II, S.		9	41 36.41	+ 0.07	− 28.04	18 29 51.52	+ 4 38.89	+ 18.9	7 41 8.44	− 0.57	69 41 10.5	. .
	17	Venus N.		.	. . . .	. .	. .	18 29 51.52	+ 4 21.48	+ 18.9	. . . .	. .	69 40 53.1	. .
27	18	Sun I, S.		9	24 54.92	+ 0.11	− 28.05	29 13 53.95	+ 3 33.68	+ 30.9	10 24 26.98	+64.54	80 24 19.7	. .
	19	Sun II, N.		9	27 4.01	+ 0.11	− 28.05	28 41 52.02	+ 3 53.51	+ 30.3	10 26 36.07	−64.55	79 52 37.0	. .
	20	γ Ursæ Majoris		9	48 2.90	+ 0.21	− 28.06	344 27 54.70	+ 4 46.96	− 15.2	11 47 35.05	. .	35 38 47.7	+ 0.8
	21	α² Can. Ven.		9	50 56.96	+ 0.15	**− 28.02**	359 51 52.78	+ 4 13.05	− 0.1	12 50 29.05	. .	51 2 26.9	+ 1.7
	22	Polaris, S. P.		7	16 49.16	− 7.61	− 28.06	307 31 51.68	+ 3 30.63	− 1 11.0	1 16 13.49	. .	358 40 32.5	− 0.2
	23	α Virginis		9	19 25.77	+ 0.13	**− 28.10**	49 19 51.55	+ 5 20.20	+ 1 3.8	13 18 57.84	. .	100 32 36.8	0.0
	24	β Draconis (R)		.	. . . .	. .	. .	193 25 49.02	+ 4 0.95	+ 13.3	. . . .	. .	37 36 17.9	− 0.4
	25	β Draconis		.	. . . .	. .	. .	346 25 56.38	+ 4 15.83	− 13.3	17 28 . .	. .	37 36 20.1	+ 1.8
	26	Anonymous	8.0	8	38 12.75	+ 0.13	− 28.08	67 3 51.40	+ 3 58.12	+ 2 10.8	17 37 44.80	− 4.35	118 16 21.5	− 1.8
	27	Lacaille 7520		9	52 36.06	+ 0.16	− 28.07	77 57 54.35	+ 5 37.88	+ 4 16.4	17 52 8.15	− 4.89	129 14 9.8	− 3.8
	28	B. A. C. 6103		9	57 22.36	+ 0.14	− 28.07	74 43 51.50	+ 0 39.91	+ 3 20.9	17 56 54.43	− 4.76	125 54 13.5	− 2.2
	29	B. A. C. 6117		9	58 54.00	+ 0.15	− 28.07	74 43 51.50	+ 8 4.33	+ 3 22.6	17 58 26.08	− 4.78	126 1 39.6	− 2.1
	30	μ Sagittarii		9	7 11.06	+ 0.10	**− 28.08**	59 53 51.22	+ 3 27.25	+ 1 36.0	18 6 43.09	. .	111 5 15.7	+ 1.0
	31	δ Ursæ Minoris		6	11 0.95	+ 1.99	− 28.06	312 13 46.20	+ 4 0.74	− 1 1.2	18 10 34.88	. .	3 23 6.9	+ 0.9
	32	B. A. C. 6256	7.5	9	20 25.39	+ 0.13	− 28.06	70 23 52.95	+ 3 7.68	+ 2 35.7	18 19 57.46	− 4.70	121 35 57.5	+ 1.7
	33	Anonymous	9.0	5	20 53.11	+ 0.13	− 28.06	70 23 52.95	+ 5 21.04	+ 2 36.1	18 20 25.18	− 4.70	121 38 11.3	+ 1.7
	34	1 Aquilæ		9	29 15.89	+ 0.07	**− 28.06**	47 7 55.80	+ 4 7.15	+ 1 0.3	18 28 47.91	. .	98 19 24.5	+ 0.3
	35	B. A. C. 6359		9	36 10.17	+ 0.14	− 28.05	77 11 50.65	+ 3 53.57	+ 4 1.8	18 35 42.26	− 5.08	128 26 7.2	+ 1.4
	36	51 Cephei, S. P.		7	45 0.00	− 2.49	− 28.04	306 3 51.35	+ 4 27.72	− 1 16.5	6 44 29.47	. .	357 13 23.8	+ 2.8
	37	B. A. C. 6470		9	50 47.34	+ 0.11	− 28.04	348 15 50.78	+ 4 0.30	− 11.6	18 50 19.41	− 2.81	39 26 0.7	+22.5
	38	B. A. C. 6499		9	57 19.36	+ 0.12	− 28.04	69 59 50.75	+ 4 18.63	+ 2 33.2	18 56 51.44	− 4.84	121 13 3.8	+ 5.9
	39	ζ Aquilæ		9	0 28.00	+ 0.06	**− 27.95**	25 7 53.85	+ 3 47.82	+ 26.4	19 0 0.03	. .	76 18 29.3	+ 2.4
	40	d Sagittarii		9	11 12.78	+ 0.09	**− 28.09**	57 57 54.12	+ 3 52.99	+ 1 29.6	19 10 44.84	. .	109 9 37.9	+ 0.8
	41	Mer. C. Z. 129, 87	9.0	9	13 34.62	+ 0.10	− 28.03	62 24 . .	. . . .	. .	19 13 6.69	− 4.62	113 36 . .	. .
	42	Schwerd 1184		8	24 55.38	+ 2.57	− 28.02	311 11 49.55	+ 3 33.23	− 1 4.0	19 24 29.93	+ 3.11	2 20 40.0	+22.2
	43	λ Ursæ Minoris		3	43 24.47	+ 5.70	− 28.01	309 53 51.38	+ 3 49.88	− 1 7.0	19 43 2.16	. .	1 2 55.5	+ 3.1
	44	Lalande 38415	6.7	9	0 29.84	+ 0.05	− 28.00	23 39 47.25	+ 3 25.60	+ 24.7	20 0 1.89	− 3.90	74 49 58.7	+21.7
	45	B. A. C. 6939	6.0	8	4 53.56	+ 0.18	− 28.00	331 9 46.58	+ 2 57.81	− 31.0	20 4 25.74	− 3.31	22 18 34.6	+24.4
	46	α² Capricorni		9	11 59.52	+ 0.07	**− 28.04**	51 43 52.42	+ 3 3.60	+ 1 11.4	20 11 31.60	. .	102 54 28.6	+ 1.1
	47	B. A. C. 7025		9	19 43.58	+ 0.13	− 27.99	76 31 54.20	+ 4 52.34	+ 3 52.1	20 19 15.72	− 5.30	127 46 59.8	+13.6
	48	B. A. C. 7060		9	23 8.53	+ 0.11	− 27.99	339 37 56.22	+ 2 59.35	− 20.9	20 22 40.65	− 3.60	30 46 55.9	+24.8
	49	ε Delphini		9	28 3.65	+ 0.04	**− 27.94**	27 53 54.10	+ 4 54.13	+ 30.0	20 27 35.71	. .	79 5 39.4	+ 1.2
	50	Lalande 39951	6.5	9	35 31.44	+ 0.04	− 27.98	15 17 54.70	+ 4 33.48	+ 15.5	20 35 3.50	− 3.94	66 29 4.9	+24.2

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
5	30.24	70.5	68.2
14	30.23	71.2	67.1
15	30.28	71.5	72.3
19	30.27	80.8	82.6
20	30.25	83.5	85.2
21	30.24	84.0	85.5
23	30.23	84.1	85.6
26	30.18	78.4	76.8
39	30.18	74.8	72.2

For summary of the constants of reduction see page 3.

31, 43. Three bisections.	ZENITH-POINT CORR. ″ 1 to 14 + 36.54
22, 26, 46. Four bisections.	15 to 23 + 35.82
36, 42. Five bisections.	24 to 50 + 36.20

21. Barometer and thermometers read at 12h 57m.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
16	− 2.6	− 8.7	. .	− 11.3
17	− 2.6	+ 8.7	0.0	+ 6.1
18	− 4.3	− 15 51.3	. .	− 15 55.6
19	− 4.2	+ 15 51.3	. .	+ 15 47.1

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
August 27, R.	1	B. A. C. 7212	.	9	43 55.33	+ 0.12	− 27.98	77 5 53.70	+ 4 41.03	+ 4 2.7	20 43 27.47	− 5.32	128 20 58.6	+16.2
	2	B. A. C. 7234	.	9	46 28.89	+ 0.12	− 27.98	78 59 50.52	+ 4 3.07	+ 4 43.7	20 46 1.03	− 5.42	130 14 58.5	+16.1
	3	B. A. C. 7286	.	9	55 22.37	+ 0.12	− 27.98	77 47 56.70	+ 0 38.73	+ 4 15.4	20 54 54.51	− 5.34	128 59 12.0	+17.2
	4	B. A. C. 7292	.	9	55 54.79	+ 0.12	− 27.98	77 47 56.70	+ 6 48.90	+ 4 17.5	20 55 26.93	− 5.35	129 5 24.3	+17.3
	5	61[1] Cygni	.	9	2 5.93	+ 0.05	**− 27.96**	0 39 51.68	+ 3 27.25	+ 0.7	21 1 38.00	. .	51 49 40.8	+ 1.6
	6	B. A. C. 7353	.	9	6 59.23	+ 0.12	− 27.98	78 37 53.55	+ 5 18.97	+ 4 35.6	21 5 31.37	− 5.37	129 54 9.3	+18.2
	7	Lacaille 8760	.	9	10 50.33	+ 0.12	− 27.98	78 3 51.20	+ 4 38.20	+ 4 22.6	21 10 22.47	− 5.33	129 19 13.2	+18.8
	8	Anonymous (?)	.	7	15 30.01	+ 0.07	− 27.99	61 1 51.10	+ 3 10.16	+ 1 42.1	21 15 2.09	− 4.74	112 13 4.6	+21.6
	9	O. Arg. N. 22275	5.7	9	23 10.08	+ 0.06	− 27.99	350 31 51.02	+ 2 30.39	− 9.4	21 22 42.15	− 4.13	41 40 33.2	+24.9
	10	O. Arg. N. 22436	6.2	9	29 16.46	+ 0.06	− 27.99	349 21 48.85	+ 4 36.90	− 10.6	21 28 48.53	− 4.18	40 32 36.4	+24.7
	11	ε Pegasi (R)	.	.	. . .	. .	. .	150 19 50.78	+ 7 15.75	− 32.2	. . . .	. .	80 39 46.9	+ 0.4
	12	ε Pegasi	.	.	. . .	. .	. .	29 27 58.22	+ 4 56.39	+ 32.2	21 38 . .	. .	80 39 48.0	+ 1.5
	13	Schwerd 1292	9.1	8	49 18.98	+ 1.17	− 27.99	312 49 49.38	+ 4 19.09	− 1 1.0	21 48 52.16	−12.54	3 59 28.7	+20.5
	14	Schwerd 1302	8.8	9	3 24.46	+ 1.70	− 27.99	311 37 55.90	+ 3 5.07	− 1 3.7	22 2 58.17	−18.35	2 46 18.5	+19.8
	15	π Aquarii	.	9	19 44.30	+ 0.03	**− 27.98**	38 1 54.95	+ 4 5.92	+ 44.5	22 19 16.34	. .	89 13 6.6	− 0.4
	16	B. A. C. 7842	.	9	25 17.08	+ 0.09	− 27.99	71 43 50.75	+ 3 50.50	+ 2 51.0	22 24 49.18	− 4.87	122 56 53.4	+26.1
	17	Irene	11.0	9	30 9.29	+ 0.06	− 28.00	61 47 58.05	+ 4 23.37	+ 1 45.9	22 29 41.35	. .	113 0 28.5	− 4.0
	18	B. A. C. 7895	.	9	34 16.58	+ 0.08	− 28.00	70 1 51.92	+ 5 3.85	+ 2 35.8	22 33 48.66	− 4.79	121 15 52.8	+26.8
	19	B. A. C. 7906	.	6	35 50.27	+ 0.04	− 28.00	355 9 48.82	+ 4 11.56	− 4.7	22 35 22.31	− 4.50	46 20 16.9	+23.6
	20	Sophrosyne	13.0	8	46 0.06	+ 0.04	− 28.00	50 3 53.65	+ 5 11.90	+ 1 8.0	22 45 32.10	. .	101 16 34.8	− 4.4
	21	Klytia	14	3	54 6.96	+ 0.04	− 28.00	47 51 53.10	+ 5 39.04	+ 1 3.0	22 53 39.00	. .	99 4 56.3	− 4.0
	22	o Cephei	.	9	14 18.36	+ 0.13	− 28.00	331 21 51.78	+ 4 23.82	− 31.0	23 13 50.49	. .	22 32 5.8	+ 2.4
	23	θ Piscium	.	9	22 28.21	+ 0.03	**− 28.03**	33 5 55.55	+ 3 8.97	+ 37.2	23 22 0.24	. .	84 16 2.9	+ 1.2
	24	λ Draconis, S. P.	.	8	24 47.79	− 0.35	− 28.00	288 51 49.92	+ 3 37.69	− 2 44.4	11 24 19.44	. .	339 59 4.4	+ 1.0
	25	ι Piscium	.	9	34 22.06	+ 0.03	**− 27.99**	33 49 51.98	+ 3 49.57	+ 38.2	23 33 54.09	. .	85 0 41.0	+ 0.8
29, E.	26	Weisse (2) 1764	.	6	56 45.30	+ 0.01	− 27.60	5 33 47.82	+ 6 19.90	+ 5.5	17 56 17.71	− 2.84	56 46 34.4	+17.6
	27	Weisse (2) 1797	.	9	57 44.77	+ 0.01	− 27.60	5 33 47.82	+ 0 45.23	+ 5.4	17 57 17.18	− 2.84	56 40 59.6	+17.6
	28	μ Sagittarii	.	9	7 10.68	+ 0.01	**− 27.64**	59 53 51.72	+ 3 28.92	+ 1 35.1	18 6 43.10	. .	111 5 16.9	+ 2.2
	29	δ Ursæ Minoris	.	5	10 58.72	+ 2.68	− 27.59	312 13 47.90	+ 3 59.13	− 1 0.6	18 10 33.81	. .	3 23 7.6	+ 2.0
	30	η Serpentis	.	9	15 40.54	− 0.02	**− 27.61**	41 43 51.75	+ 4 32.50	+ 49.4	18 15 12.94	. .	92 55 34.8	+ 2.7
	31	B. A. C. 6275	.	8	22 45.14	+ 0.03	− 27.58	71 49 50.08	+ 8 23.21	+ 2 47.8	18 22 17.59	− 4.74	123 7 22.3	+ 1.4
	32	B. A. C. 6285	.	9	23 48.78	+ 0.03	− 27.58	71 49 50.08	+ 4 58.09	+ 2 47.3	18 23 21.23	− 4.75	123 3 56.7	+ 1.5
	33	Piazzi XVIII, 87	.	9	25 7.70	+ 0.03	− 27.58	71 49 50.08	+ 2 16.35	+ 2 46.9	18 24 40.15	− 4.75	123 1 14.5	+ 1.7
	34	B. A. C. 6305	.	5	26 41.57	+ 0.03	− 27.57	71 49 50.08	+ 7 9.55	+ 2 47.7	18 26 14.03	− 4.76	123 6 8.5	+ 1.8
	35	B. A. C. 6308	.	6	26 49.25	+ 0.03	− 27.57	71 49 50.08	+ 3 52.86	+ 2 47.2	18 26 21.71	− 4.76	123 2 51.3	+ 1.9
	36	B. A. C. 6317	.	8	28 11.10	+ 0.03	− 27.57	71 49 50.08	− 0 2.77	+ 2 46.6	18 27 43.56	− 4.76	122 58 55.1	+ 2.0
	37	B. A. C. 6344	.	9	32 14.82	+ 0.03	− 27.57	71 49 50.08	+ 6 47.51	+ 2 47.7	18 31 47.28	− 4.79	123 5 46.5	+ 2.4
	38	51 Cephei, S. P.	.	4	45 1.80	− 3.62	− 27.56	306 3 51.25	+ 4 26.74	− 1 15.7	6 44 30.62	. .	357 13 23.5	+ 3.0
	39	β Lyræ	.	8	46 11.84	0.00	**− 27.48**	5 35 49.08	+ 3 53.00	+ 5.5	18 45 44.28	. .	56 46 8.8	+ 0.4
	40	B. A. C. 6459	.	9	51 15.03	+ 0.02	− 27.56	69 57 55.38	+ 4 34.07	+ 2 31.2	18 50 47.49	− 4.79	121 11 21.8	+ 5.1
	41	B. A. C. 6499	.	9	57 18.92	+ 0.02	− 27.55	69 57 55.38	+ 6 16.82	+ 2 31.5	18 56 51.39	− 4.81	121 13 4.9	+ 5.8
	42	B. A. C. 6551	.	9	2 44.98	+ 0.07	− 27.55	345 37 55.08	+ 2 43.44	− 14.2	19 2 17.50	− 2.79	36 46 45.5	+23.5
	43	Lalande 36268[2]	.	7	11 30.99	− 0.03	− 27.54	24 29 50.22	+ 2 59.93	+ 25.4	19 11 3.42	− 3.68	75 39 36.8	+18.9
	44	B. A. C. 6622	.	9	16 11.31	+ 0.04	− 27.54	79 35 52.50	+ 3 6.33	+ 4 53.7	19 15 43.81	− 5.33	130 50 13.7	+ 5.3
	45	Schwerd 1175	.	4	21 51.25	+ 2.94	− 27.53	311 41 48.15	+ 5 4.86	− 1 2.1	19 21 26.66	+ 3.12	2 52 12.1	+22.8
	46	Schwerd 1176	.	5	26 28.12	+ 2.40	− 27.53	312 17 50.82	+ 3 31.08	− 1 0.9	19 26 2.99	+ 1.57	3 26 42.2	+22.9
	47	B. A. C. 6737	.	7	34 0.56	+ 0.14	− 27.53	335 39 50.00	+ 3 39.77	− 25.1	19 33 33.17	− 2.87	26 49 25.9	+24.6
	48	Rumker 7771	.	6	34 17.73	+ 0.14	− 27.53	335 39 50.00	+ 0 19.96	− 25.2	19 33 50.34	− 2.87	26 46 6.0	+24.6
	49	Lalande 38591	.	9	3 39.32	− 0.01	− 27.50	4 43 54.10	+ 4 35.03	+ 4.7	20 3 11.81	− 3.64	55 54 55.0	+24.4
	50	κ Cephei (R)	.	.	. . . .	. .	. .	218 21 49.10	+ 5 20.79	+ 44.2	. . . .	. .	12 38 27.1	− 0.1

No.	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*	No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°			′ ″	′ ″	′ ″	′ ″
14	30.18	68.9	65.4						
22	30.17	67.8	64.6						
25	30.16	66.4	64.0	ZENITH-POINT CORR.					
29	30.24	82.0	81.2	″					
48	30.24	78.5	77.3	11, 15, 29, 31, 32, 33, 34, 35, 36, 38. One bisection. — 1 to 25 + 36.20; 26 to 50 + 36.64					
				46. Three bisections.					
				9, 22, 25. Four bisections.					
				13, 14. Five bisections.					
				8. Observed for Semele (86). Probably a star.					
				25. Barometer and thermometers read at $0^h\ 0^m$.					

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
August 29, E.	1	κ Cephei		6	13 22.64	+ 0.48	— 27.50	321 27 57.88	+ 4 55.37	— 44.2	20 12 56.62	. .	12 38 30.2	+ 3.0
	2	γ Cygni		9	18 28.51	0.00	**— 27.29**	358 55 50.60	+ 4 50.62	— 1.0	20 18 1.02	. .	50 7 1.4	+ 1.4
	3	ε Delphini		9	28 3.37	— 0.04	**— 27.59**	27 53 51.88	+ 4 56.76	+ 29.6	20 27 35.84	. .	79 5 39.4	+ 1.5
	4	B. A. C. 7149 (R)			. . . .	. .	. .	156 31 49.42	+ 4 55.12	— 24.1	. . . .	. .	74 30 0.8	+23.8
	5	B. A. C. 7149			. . . .	. .	. .	23 17 53.45	+ 5 24.17	+ 24.1	20 34 . .	. .	74 30 2.9	+23.8
	6	μ Aquarii		9	46 46.10	— 0.04	**— 27.53**	48 13 50.30	+ 4 9.50	+ 1 2.6	20 46 18.59	. .	99 25 23.6	+ 0.6
	7	ν Cygni		9	53 15.64	— 0.01	**— 27.51**	358 5 51.70	+ 4 50.24	— 1.8	20 52 48.16	. .	49 17 1.3	+ 1.3
	8	Lalande 40682		9	55 32.93	— 0.04	— 27.47	19 57 55.32	+ 2 56.47	+ 20.4	20 55 5.42	— 4.05	71 7 33.4	+24.8
30, S.	9	η Serpentis			. . . .	. .	. .	41 43 50.30	+ 4 34.08	+ 49.5	18 15 . .	. .	92 55 35.1	+ 3.0
	10	1 Aquilæ			. . . .	. .	. .	47 7 58.95	+ 4 6.93	+ 59.8	18 29 . .	. .	98 19 26.9	+ 2.8
	11	α Lyræ			. . . .	. .	. .	0 9 50.58	+ 3 3.71	+ 0.2	18 33 . .	. .	51 19 15.7	+ 1.8
	12	51 Cephei, S. P.			. . . .	. .	. .	306 3 53.92	+ 4 23.88	— 1 15.8	6 45 . .	. .	357 13 23.2	+ 2.9
	13	ζ Aquilæ			. . . .	. .	. .	25 7 58.28	+ 3 42.27	+ 26.1	19 0 . .	. .	76 18 27.9	+ 1.3
	14	d Sagittarii			. . . .	. .	. .	57 57 58.10	+ 3 48.97	+ 1 28.7	19 11 . .	. .	109 9 37.0	— 0.1
	15	δ Aquilæ			. . . .	. .	. .	35 55 57.25	+ 4 2.46	+ 40.3	19 20 . .	. .	87 7 1.2	+ 1.4
	16	λ Ursæ Minoris			. . . .	. .	. .	309 53 52.30	+ 3 46.86	— 1 6.3	19 43 . .	. .	1 2 54.1	+ 2.6
R.	17	α Canis Minoris		9	33 33.93	+ 0.13	**— 27.50**	33 17 57.95	+ 3 25.39	+ 36.6	7 33 6.56	. .	84 28 21.1	+ 1.2
	18	β Geminorum		9	38 31.97	+ 0.14	**— 27.49**	10 29 48.18	+ 5 6.21	+ 10.4	7 38 4.61	. .	61 41 26.0	+ 0.3
	19	Venus II, S.		9	0 58.67	+ 0.13	— 27.50	19 5 54.58	+ 4 13.48	+ 19.3	8 0 31.30	— 0.55	70 16 48.6	. .
	20	Venus N.			. . . .	. .	. .	19 5 54.58	+ 3 58.89	+ 19.3	. . . .	. .	70 16 34.0	. .
31	21	Sun S.			. . . .	. .	. .	30 37 57.78	+ 5 17.98	+ 32.3	. . . .	. .	81 50 9.3	. .
	22	Sun II, N.		6	41 7.39	+ 0.17	— 27.50	30 5 56.45	+ 5 34.51	+ 31.6	10 41 10.06	—64.34	81 18 23.8	. .
Sept'r 5, R.	23	λ Ursæ Minoris		3	43 15.80	+ 5.52	— 27.04	309 53 52.10	+ 3 45.26	— 1 5.5	19 42 54.28	. .	1 2 53.1	+ 3.1
	24	a^2 Capricorni		9	11 58.42	+ 0.13	**— 27.07**	51 43 52.92	+ 3 5.37	+ 1 9.8	20 11 31.53	. .	102 54 29.3	+ 1.9
	25	γ Cygni		9	18 27.93	+ 0.08	**— 26.89**	358 55 53.50	+ 4 47.33	— 1.0	20 18 1.00	. .	50 7 1.0	+ 2.6
	26	π Capricorni		9	21 2.03	+ 0.15	**— 27.07**	57 23 52.22	+ 4 7.13	+ 1 26.2	20 20 35.17	. .	108 35 46.8	+ 1.4
	27	ε Delphini		9	28 2.61	+ 0.09	**— 27.01**	27 53 52.52	+ 4 56.03	+ 29.3	20 27 35.70	. .	79 5 39.1	+ 2.0
	28	α Cygni (R)			. . . .	. .	. .	185 53 48.18	+ 4 14.08	+ 5.8	. . . .	. .	45 8 13.1	+ 0.7
	29	α Cygni			. . . .	. .	. .	353 57 54.05	+ 4 5.39	— 5.8	20 37 . .	. .	45 8 14.8	+ 2.4
	30	Moon I, S.		9	2 13.28	+ 0.12	— 26.98	52 9 49.12	+ 3 56.37	+ 1 11.2	21 1 46.42	+70.85	103 21 17.9	. .
	31	1 Pegasi		9	17 5.96	+ 0.07	**— 26.94**	19 29 48.95	+ 5 19.38	+ 19.7	21 16 39.06	. .	70 41 49.2	+ 1.5
	32	1 Draconis, S. P.		9	20 28.29	— 0.74	— 26.96	300 41 50.98	+ 4 1.26	— 1 32.6	9 20 0.59	. .	351 50 40.8	+ 3.1
	33	ξ Aquarii		9	31 56.33	+ 0.11	**— 26.98**	47 11 48.90	+ 3 40.94	+ 59.8	21 31 29.48	. .	98 22 50.8	+ 1.5
19, S.	34	51 Cephei, S. P.		7	45 11.21	— 6.52	— 24.69	306 3 57.55	+ 4 16.70	— 1 15.6	6 44 40.00	. .	357 13 19.8	+ 2.3
	35	B. A. C. 6499		9	57 15.87	— 0.14	— 24.69	69 59 58.55	+ 4 14.51	+ 2 31.4	18 56 51.04	— 4.46	121 13 5.7	+ 4.9
	36	ζ Aquilæ		9	0 24.41	— 0.05	**— 24.60**	25 8 1.18	+ 3 38.36	+ 26.1	18 59 59.67	. .	76 18 26.8	+ 1.8
	37	d Sagittarii		9	11 9.30	— 0.12	**— 24.73**	57 58 2.12	+ 3 46.03	+ 1 28.6	19 10 44.49	. .	109 9 38.0	+ 0.5
	38	B. A. C. 6594		9	13 16.36	— 0.14	— 24.69	70 49 56.55	+ 3 5.48	+ 2 38.3	19 12 51.53	— 4.57	122 2 1.5	+ 6.2
	39	Lalande 36867		9	24 22.33	— 0.05	— 24.69	24 28 1.85	+ 3 42.98	+ 25.3	19 23 57.59	— 3.43	75 38 31.3	+21.6
	40	B. A. C 6728		9	33 12.66	+ 0.10	— 24.69	355 23 54.28	+ 2 57.59	— 4.4	19 32 48.07	— 2.82	46 33 8.7	+27.7
	41	λ Ursæ Minoris		6	42 46.02	+16.00	— 24.69	309 53 55.08	+ 3 38.82	— 1 6.2	19 42 37.33	. .	1 2 48.9	+ 1.9
	42	a^2 Capricorni		9	11 56.17	— 0.11	**— 24.74**	51 44 0.78	+ 2 55.43	+ 1 10.6	20 11 31.37	. .	102 54 28.0	+ 0.5
	43	B. A. C. 7048		9	22 14.72	+ 0.07	— 24.69	358 49 56.08	+ 2 31.33	— 1.1	20 21 50.10	— 3.35	49 58 47.5	+29.6
	44	B. A. C. 7149 (R)			. . . .	. .	. .	156 31 53.40	+ 4 53.17	— 24.1	. . . .	. .	74 29 58.7	+26.3
	45	B. A. C. 7149			. . . .	. .	. .	23 17 57.32	+ 5 18.41	+ 24.1	20 34 . .	. .	74 30 1.0	+26.3
	46	11 Cephei		9	40 38.96	+ 0.58	— 24.68	328 3 55.45	+ 3 59.24	— 34.7	21 40 14.86	. .	19 13 41.2	+ 1.0
	47	B. A. C. 7643 (R)			. . . .	. .	. .	197 3 54.12	+ 5 34.01	+ 17.2	. . . .	. .	33 56 35.9	+31.1
	48	B. A. C. 7643			. . . .	. .	. .	342 46 0.70	+ 4 33.38	— 17.2	21 51 . .	. .	33 56 38.1	+31.1
	49	B. A. C. 7702		9	1 57.90	— 0.16	— 24.68	73 21 54.30	+ 5 40.67	+ 3 5.6	22 1 33.06	— 4.98	124 37 1.8	+21.2
	50	Lacaille 9036		9	3 28.46	— 0.16	— 24.68	73 21 54.30	+ 4 14.73	+ 3 5.4	22 3 3.62	— 4.98	124 35 35.6	+21.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
8	30.25	77.0	75.2
9	30.27	82.8	80.2
16	30.25	77.0	75.0
18	30.25	76.5	78.1
22	30.22	85.8	89.3
23	30.21	83.6	82.6
30	30.21	81.7	80.2
33	30.20	81.1	79.6
36	30.01	77.0	75.6
45	30.00	74.2	72.2

For summary of the constants of reduction see page 3.

12, 16, 23, 32, 34, 41. Three bisections.
27. Four bisections.
30. Five bisections.

ZENITH-POINT CORR.

″

1 to 8 + 36.64
9 to 16 + 33.80
17 to 22 + 33.18
23 to 33 + 33.56
34 to 50 + 32.09

16. Barometer and thermometers read at $21^h\ 24^m$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
19	— 2.6	— 7.3	. .	— 9.9
20	— 2.6	+ 7.3	0.0	+ 4.7
21	— 4.5	— 15 52.7	. .	— 15 57.2
22	— 4.4	+ 15 52.7	. .	+ 15 48.3
30	—47 56.2	— 16 36.8	. .	— 64 33.0

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
Sept. 19, S	1	32 Ursæ Maj., S. P.	.	9	9 49.98	− 0.91	− 24.68	284 35 56.85	+ 2 52.78	− 3 30.1	10 9 24.39	. .	335 41 40.7	+ 0.2
	2	π Aquarii . . .	.	9	19 41.12	− 0.11	**− 24.64**	38 1 56.78	+ 4 3.96	+ 43.8	22 19 16.33	. .	89 13 5.7	+ 0.3
	3	η Aquarii . . .	.	9	29 43.72	− 0.11	**− 24.72**	39 31 55.15	+ 4 19.86	+ 46.3	22 29 18.93	. .	90 43 22.5	+ 1.1
	4	B. A. C. 7909 .	.	9	36 14.60	− 0.16	− 24.68	68 48 1.48	+ 1 46.42	+ 2 23.3	22 35 49.76	− 4.81	119 58 32.4	+24.5
	5	B. A. C. 7944 .	.	9	41 31.02	− 0.17	− 24.68	77 35 57.42	+ 3 56.40	+ 4 9.6	22 41 6.17	− 5.04	128 50 24.6	+23.4
	6	B. A. C. 7957 .	.	9	44 45.59	− 0.17	− 24.68	78 31 52.92	+ 4 4.70	+ 4 29.6	22 44 20.74	− 5.06	129 46 48.4	+23.5
	7	B. A. C. 7987 .	.	9	49 51.10	− 0.16	− 24.68	71 56 0.45	+ 4 53.74	+ 2 50.4	22 49 26.26	− 4.86	123 10 5.8	+24.9
	8	B. A. C. 8002 .	.	9	53 34.82	− 0.16	− 24.68	68 51 55.22	+ 4 54.38	+ 2 24.1	22 53 9.98	− 4.79	120 5 34.9	+25.6
	9	α Pegasi . . .	.	9	59 19.17	− 0.07	**− 24.64**	24 15 57.50	+ 2 52.06	+ 25.3	22 58 54.42	. .	75 25 36.1	+ 0.6
	10	B. A. C. 8068 .	.	9	3 37.66	+ 0.34	− 24.68	335 15 58.00	+ 2 58.07	− 25.7	23 3 13.32	− 5.57	26 24 51.6	+27.8
	11	Piazzi XXIII, 41	.	6	13 20.35	− 0.14	− 24.68	52 53 58.62	+ 4 7.51	+ 1 14.0	23 12 55.53	− 4.54	104 5 41.3	+28.2
	12	Piazzi XXIII, 42	.	5	13 20.58	− 0.14	− 24.68	52 53 58.62	+ 4 21.16	+ 1 14.0	23 12 55.76	− 4.54	104 5 55.0	+28.2
	13	θ Piscium . . .	.	9	22 25.19	− 0.09	**− 24.73**	33 5 59.82	+ 3 1.75	+ 36.6	23 22 0.42	. .	84 15 59.4	+ 0.1
20, R.	14	τ Aquilæ . . .	.	9	58 48.28	− 0.08	**− 24.82**	31 51 53.78	+ 4 12.88	+ 34.8	19 58 23.36	. .	83 3 2.7	− 0.1
	15	B. A. C. 6977 .	.	9	12 31.82	− 0.12	− 24.84	68 48 2.85	+ 2 38.67	+ 2 23.3	20 12 6.86	− 4.70	119 59 26.0	+12.6
	16	B. A. C. 7025 .	.	8	19 40.43	− 0.12	− 24.84	76 31 53.05	+ 4 54.45	+ 3 50.1	20 19 15.47	− 5.01	127 46 58.8	+11.0
	17	π Capricorni . .	.	9	20 59.97	− 0.12	**− 24.91**	57 23 52.10	+ 4 4.63	+ 1 27.4	20 20 35.01	. .	108 35 45.3	− 0.5
	18	ε Delphini . .	.	9	28 0.43	− 0.08	**− 24.83**	27 53 54.15	+ 4 51.59	+ 29.7	20 27 35.51	. .	79 5 36.6	+ 0.9
	19	Groom. 3241 .	.	9	30 57.79	+ 0.52	− 24.84	326 41 54.65	+ 4 9.88	− 36.6	20 30 33.47	. .	17 51 49.1	+ 4.4
	20	μ Aquarii (R) . .	.	.	. . . .	. .	. .	131 37 56.40	+ 4 5.11	− 1 2.8	. . . .	. .	99 25 22.5	− 0.3
	21	μ Aquarii . . .	.	.	. . . .	. .	. .	48 13 54.28	+ 4 4.98	+ 1 2.8	20 46 . .	. .	99 25 23.3	+ 0.5
	22	ν Cygni . . .	.	9	53 12.61	+ 0.02	**− 24.80**	358 5 56.05	+ 4 40.48	− 1.8	20 52 47.79	. .	49 16 55.9	+ 1.0
	23	σ^3 Ursæ Maj., S. P.	.	9	0 22.86	− 0.87	− 24.83	286 29 51.78	+ 3 26.32	− 3 6.2	8 59 57.16	. .	337 36 33.1	+ 0.2
	24	B. A. C. 7353 .	.	9	5 56.27	− 0.14	− 24.83	78 37 58.25	+ 5 20.52	+ 4 33.3	21 5 31.30	− 5.17	129 54 13.3	+15.0
	25	Lacaille 8760 .	.	9	10 47.10	− 0.14	− 24.83	78 3 54.02	+ 4 41.56	+ 4 20.4	21 10 22.13	− 5.15	129 19 17.2	+15.6
	26	B. VI + 79°, 699	8.0	9	16 23.28	+ 1.09	− 24.83	318 59 51.60	+ 3 21.68	− 48.7	21 15 59.54	− 4.19	10 8 45.8	+30.4
	27	Σ (P.M.)2603(*med.*)	.	6	22 31.39	+ 1.08	− 24.83	318 59 51.60	+ 3 37.10	− 48.7	21 22 7.64	− 4.48	10 9 1.2	+30.3
	28	B. A. C. 7621 .	.	9	46 51.63	+ 0.31	− 24.83	332 35 55.22	+ 3 23.15	− 29.1	21 46 27.11	− 4.39	23 45 10.5	+31.0
	29	Schwerd 1294 .	8.8	7	49 46.40	+ 3.54	− 24.83	312 21 53.05	+ 4 46.52	− 1 1.4	21 49 25.11	−10.34	3 31 59.4	+29.0
	30	B. A. C. 7702 .	.	9	1 57.89	− 0.15	− 24.82	73 21 50.80	+ 5 43.99	+ 3 7.0	22 1 32.92	− 4.97	124 37 3.0	+21.1
	31	Lacaille 9036 .	.	9	3 28.44	− 0.15	− 24.82	73 21 50.80	+ 4 15.79	+ 3 6.7	22 3 3.47	− 4.97	124 35 34.5	+21.2
	32	B. A. C. 7909 .	.	9	36 14.65	− 0.14	− 24.82	68 47 59.20	+ 1 47.31	+ 2 24.4	22 35 49.69	− 4.81	119 58 32.1	+24.4
	33	B. A. C. 7944 .	6.5	9	41 31.14	− 0.15	− 24.82	77 35 55.72	+ 3 55.63	+ 4 11.6	22 41 6.17	− 5.04	128 50 24.2	+23.3
	34	B. A. C. 7957 .	5.7	9	44 45.68	− 0.15	− 24.82	78 31 54.38	+ 4 1.50	+ 4 31.7	22 44 20.71	− 5.06	129 46 48.8	+23.4
	35	B. A. C. 8002 .	.	9	53 35.04	− 0.14	− 24.81	68 51 52.48	+ 4 53.69	+ 2 25.4	22 53 10.09	− 4.78	120 5 32.8	+25.4
	36	α Pegasi . . .	.	9	59 19.36	− 0.08	**− 24.82**	24 15 55.72	+ 2 53.77	+ 25.5	22 58 54.47	. .	75 25 36.2	+ 0.8
	37	ο Cephei, (R) . .	.	.	. . . .	. .	. .	208 27 57.22	+ 5 59.55	+ 30.7	. . . .	. .	22 31 53.7	− 1.0
	38	ο Cephei . . .	.	7	14 15.26	+ 0.31	− 24.81	331 21 53.20	+ 4 13.08	− 30.7	23 13 50.76	. .	22 31 56.8	+ 2.1
	39	θ Piscium . . .	.	9	22 25.27	− 0.11	**− 24.79**	33 5 56.25	+ 3 4.39	+ 36.9	23 22 0.35	. .	84 15 58.7	− 0.5
	40	λ Draconis, S. P.	.	9	24 44.86	− 0.89	− 24.81	288 51 53.28	+ 3 24.50	− 2 43.0	11 24 19.16	. .	339 58 56.0	+ 0.9
	41	ι Piscium . . .	.	9	34 19.23	− 0.11	**− 24.82**	33 49 53.25	+ 3 44.82	+ 37.9	23 33 54.31	. .	85 0 37.2	− 0.7
23, R.	42	α Hydræ . . .	.	3	22 11.24	− 0.04	**− 24.63**	46 57 59.40	+ 3 23.58	+ 59.7	9 21 46.73	. .	98 8 43.9	− 0.8
	43	ε Leonis . . .	.	9	39 32.47	0.00	**− 24.31**	14 29 51.72	+ 4 30.52	+ 14.5	9 39 8.01	. .	65 40 57.9	− 0.9
	44	Venus II, S.	.	9	55 44.20	− 0.02	− 24.46	25 31 54.68	+ 5 10.20	+ 26.6	9 55 19.72	− 0.47	76 43 52.7	. .
	45	α Leonis . . .	.	9	2 28.73	− 0.02	**− 24.43**	26 15 54.72	+ 4 37.04	+ 27.5	10 2 4.26	. .	77 27 20.5	+ 0.4
	46	γ^1 Leonis . . .	.	9	13 51.36	0.00	**− 24.46**	18 21 54.75	+ 5 7.19	+ 18.5	10 13 26.91	. .	69 33 41.6	+ 0.6
	47	α Ursæ Maj. (R) .	.	.	. . . .	. .	. .	203 25 54.90	+ 3 15.63	+ 24.0	. . . .	. .	27 36 46.7	− 0.4
	48	α Ursæ Majoris .	.	8	56 47.75	+ 0.28	− 24.44	336 25 59.90	+ 4 52.26	− 24.0	10 56 23.59	. .	27 36 49.4	+ 2.3
	49	δ Leonis . . .	.	9	8 13.17	+ 0.02	**− 24.44**	17 37 58.12	+ 5 7.02	+ 17.6	11 7 48.75	. .	68 49 43.9	0.0
	50	γ Ursæ Majoris .	.	9	47 59.36	+ 0.18	− 24.42	344 28 0.10	+ 4 49.01	− 15.2	11 47 35.12	. .	35 38 55.1	− 0.1

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.00	72.2	70.9
13	30.00	70.9	70.0
14	30.00	72.8	71.3
20	30.00	70.9	70.1
28	30.00	69.8	67.9
31	30.00	68.6	67.2
41	29.99	66.8	65.3
42	30.16	74.7	75.4
45	30.16	77.3	78.1
48	30.16	79.6	80.2
50	30.16	80.7	82.3

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

			″
19, 26, 29, 40.	Three bisections.	1 to 13	+ 32.09
13, 14, 23, 41, 43, 44, 49.	Four bisections.	14 to 41	+ 30.86
		42 to 50	+ 30.79

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
44	− 3.0	− 6.9	. .	− 9.9

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
Sept. 24, R.	1	Sun I, S.	.	9	5 48.86	0.00	— 24.41	39 45 56.68	+ 5 7.98	+ 45.8	12 5 24.45	+64.01	90 58 11.7	. .
	2	Sun II, N.	.	9	7 56.89	0.00	— 24.42	39 13 55.42	+ 5 13.54	+ 44.9	12 7 32.47	—64.01	90 26 15.1	. .
	3	Mercury I, C.	.	6	12 13.60	0.00	— 24.40	47 5 55.20	+ 4 43.83	+ 58.7	13 11 49.20	+ 0.17	98 17 58.9	. .
	4	Polaris, S. P.	.	7	17 3.34	—11.01	— 24.40	307 31 53.60	+ 3 39.67	— 1 10.6	1 16 27.93	. .	358 40 43.9	+ 1.9
	5	η Ursæ Majoris	.	9	43 15.86	+ 0.18	— 24.39	348 55 57.05	+ 3 32.66	— 10.6	13 42 51.65	. .	40 5 40.3	+ 0.4
	6	α Draconis	.	8	1 33.08	+ 0.39	— 24.39	333 53 54.90	+ 3 35.37	— 26.6	14 1 9.08	. .	25 3 24.9	+ 0.6
	7	α Bootis (R)	.	.	. . . .	. .	. .	160 19 52.62	+ 4 48.42	— 18.8	. . . .	. .	70 11 59.0	+ 0.9
	8	α Bootis	.	.	. . . .	. .	. .	18 59 50.70	+ 5 28.75	+ 18.8	14 10 . .	. .	70 11 59.4	+ 1.3
	9	ε Bootis	.	9	40 13.31	+ 0.07	— **24.33**	11 13 55.00	+ 4 59.66	+ 10.9	14 39 49.00	. .	62 25 26.8	+ 0.1
	10	β Ursæ Minoris	.	8	51 23.44	+ 0.78	— 24.37	324 11 53.45	+ 3 54.69	— 39.0	14 50 59.85	. .	15 21 30.3	+ 0.6
	11	β Bootis	.	9	57 53.20	+ 0.13	— **34.42**	357 57 55.25	+ 4 8.19	— 1.9	14 57 28.96	. .	49 8 22.7	+ 1.4
	12	B. A. C. 6551	6.5	9	2 41.07	+ 0.14	— 24.31	345 37 56.90	+ 2 38.90	— 14.1	19 2 16.90	— 1.96	36 46 42.9	+27.3
	13	Mer. C. Z. 129, 87	9.2	9	13 30.60	— 0.03	— 24.31	02 23 52.85	+ 4 21.21	+ 1 45.2	19 13 6.26	— 4.20	113 36 20.5	+ 8.9
	14	Schwerd 1184	8.8	8	24 33.92	+ 5.24	— 24.31	311 11 51.02	+ 3 25.00	— 1 2.8	19 24 14.85	+17.88	2 20 34.4	+27.7
	15	λ Ursæ Minoris	.	5	42 44.34	+11.90	— 24.31	309 53 53.42	+ 3 40.37	— 1 5.8	19 42 31.93	. .	1 2 49.2	+ 3.0
	16	β Aquilæ	.	9	49 56.11	— 0.02	— **24.36**	32 41 54.50	+ 4 12.63	+ 35.6	19 49 31.78	. .	83 53 3.9	+ 2.8
	17	B. A. C. 6865	.	5	53 56.82	+ 0.12	— 24.31	348 13 52.65	+ 4 30.23	— 11.4	19 53 32.63	— 2.69	39 24 32.7	+30.2
	18	τ Aquilæ	.	9	58 47.66	— 0.02	— **24.32**	31 51 54.32	+ 4 14.55	+ 34.5	19 58 23.33	. .	83 3 4.6	+ 2.0
	19	B. A. C. 6939	.	8	4 48.64	+ 0.35	— 24.31	331 9 50.98	+ 2 44.94	— 30.4	20 4 24.68	— 2.07	22 18 26.7	+31.1
	20	γ Cygni	.	9	18 24.97	+ 0.06	— **24.26**	358 55 54.42	+ 4 41.95	— 1.0	20 18 0.72	. .	50 6 56.6	+ 1.6
	21	ε Delphini (R)	.	.	. . . .	. .	. .	151 55 54.78	+ 5 20.68	— 29.5	. . . .	. .	79 5 35.2	— 0.2
	22	ε Delphini	.	.	. . . .	. .	. .	27 53 53.58	+ 4 54.47	+ 29.5	20 28 . .	. .	79 5 38.7	+ 3.3
	23	B. A. C. 7143	.	9	33 48.79	— 0.01	— 24.31	15 7 56.40	+ 3 4.27	+ 15.1	20 33 24.47	— 3.61	66 17 37.0	+28.4
	24	B. A. C. 7212	.	8	43 51.41	— 0.01	— 24.31	77 5 56.85	+ 4 48.81	+ 3 58.4	20 43 27.09	— 5.02	128 21 5.3	+12.8
	25	Weisse (2) 1483	6.7	4	47 30.01	— 0.02	— 24.31	21 13 50.45	+ 4 10.28	+ 21.7	20 47 5.68	— 3.78	72 24 43.6	+27.9
	26	B. A. C. 7280	.	9	54 28.70	— 0.02	— 24.31	71 29 53.32	+ 4 2.28	+ 2 44.9	20 54 4.37	— 4.83	122 43 1.7	+15.4
	27	σ^2 Ursæ Maj., S. P.	.	9	0 22.30	— 0.77	— 24.31	286 29 50.20	+ 3 25.26	— 3 4.5	8 59 57.22	. .	337 36 32.2	+ 0.3
	28	O. Arg. N. 22275	.	9	23 6.22	+ 0.09	— 24.31	350 29 50.45	+ 4 20.63	— 9.2	21 22 42.00	— 3.78	41 40 23.1	+32.5
	29	Groom. 3511.	.	9	28 45.38	+ 0.97	— 24.31	318 49 51.52	+ 3 46.65	— 48.5	21 28 22.04	— 4.47	9 59 10.9	+31.4
	30	Schwerd 1294	8.9	8	49 44.30	+ 3.11	— 24.31	312 21 50.85	+ 4 46.87	— 1 0.8	21 49 23.10	— 9.48	3 31 58.1	+30.3
	31	B. A. C. 7702	5.7	9	1 57.19	— 0.04	— 24.31	73 21 52.85	+ 5 44.11	+ 3 5.0	22 1 32.84	— 4.94	124 37 3.2	+20.6
	32	Lacaille 9036	6.8	9	3 27.93	— 0.04	— 24.31	73 21 52.85	+ 4 16.37	+ 3 4.7	22 3 3.58	— 4.94	124 35 35.1	+20.7
	33	B. A. C. 7987	.	9	49 50.56	— 0.04	— 24.31	71 55 54.42	+ 5 1.03	+ 2 49.8	22 49 26.21	— 4.85	123 10 6.4	+24.2
	34	B. A. C. 8002	.	9	53 34.41	— 0.04	— 24.31	68 51 53.30	+ 4 56.62	+ 2 23.6	22 53 10.06	— 4.78	120 5 34.7	+24.9
	35	B. A. C. 8045	.	9	0 45.34	— 0.02	— 24.31	78 15 51.85	+ 5 8.54	+ 4 22.9	23 0 21.01	— 4.99	129 31 44.5	+23.8
	36	Piazzi XXIII, 41	.	6	13 19.92	— 0.05	— 24.31	52 53 54.88	+ 4 10.95	+ 1 13.7	23 12 55.56	— 4.54	104 5 40.7	+28.0
	37	Piazzi XXIII, 42	.	5	13 20.08	— 0.05	— 24.31	52 53 54.88	+ 4 24.88	+ 1 13.7	23 12 55.72	— 4.54	104 5 54.7	+28.0
	38	θ Piscium	.	9	22 24.76	— 0.04	— **24.34**	33 5 56.00	+ 3 5.94	+ 36.4	23 22 0.41	. .	84 15 59.5	+ 0.6
	39	λ Draconis, S. P.	.	9	24 44.28	— 0.80	— 24.31	288 51 52.78	+ 3 20.03	— 2 40.9	11 24 19.17	. .	339 58 53.1	— 0.5
	40	ι Piscium	.	9	34 18.73	— 0.04	— **24.38**	33 49 51.88	+ 3 47.16	+ 37.4	23 33 54.38	. .	85 0 37.6	0.0
	41	Philomela	10.5	9	38 7.93	— 0.05	— 24.31	52 41 52.62	+ 1 29.28	+ 1 13.1	23 37 43.57	. .	103 50 56.2	— 3.3
	42	Groom. 4163.	.	9	49 35.22	+ 0.48	— 24.31	325 5 55.85	+ 3 4.64	— 38.8	23 49 11.39	. .	16 14 42.9	+ 1.3
	43	α Andromedæ	.	9	2 43.32	— 0.01	— **24.25**	10 23 52.42	+ 3 8.31	+ 10.3	0 2 19.00	. .	61 33 32.2	+ 0.8
	44	B. A. C. 79 (R)	.	.	. . . .	. .	. .	192 23 50.78	+ 4 20.56	+ 12.3	. . . .	. .	38 37 57.6	+25.6
	45	B. A. C. 79	.	.	. . . .	. .	. .	347 27 56.68	+ 3 53.52	— 12.3	0 18 . .	. .	38 37 59.1	+25.6
	46	12 Ceti	.	6	24 26.73	— 0.05	— **24.26**	43 25 56.22	+ 3 16.53	+ 52.8	0 24 2.37	. .	94 36 26.8	+ 1.9
	47	Harmonia	8.5	9	29 32.37	— 0.05	— 24.31	44 15 56.18	+ 5 49.07	+ 54.5	0 29 8.01	. .	95 29 0.9	— 5.3
	48	Anonymous	11.5	9	35 37.79	— 0.04	— 24.31	30 19 51.62	+ 4 15.85	+ 32.7	0 35 13.44	— 4.57	81 31 1.4	+28.4
29, S.	49	κ Aquilæ	.	9	30 57.20	+ 0.01	— **24.10**	46 5 52.50	+ 4 1.87	+ 57.4	19 30 33.20	. .	97 17 13.0	+ 2.1
	50	γ Aquilæ	.	9	41 3.56	0.00	— **23.98**	28 29 53.35	+ 3 26.49	+ 30.1	19 40 39.55	. .	79 40 11.1	+ 0.7

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	30.15	81.6	83.0
3	30.14	83.1	85.2
4	30.13	85.9	87.2
11	30.12	87.8	88.4
14	30.10	80.8	79.2
20	30.10	79.0	76.8
27	30.10	77.8	75.3
30	30.10	77.3	74.4
32	30.11	76.5	74.2
36	30.10	75.9	73.9
43	30.10	75.7	74.3
48	30.11	75.5	73.8
49	30.24	82.8	81.3

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

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7, 9, 37, 39, 40. One bisection. 1 to 11 + 30.79

10, 29, 42, 47. Three bisections. 12 to 48 + 31.99

5, 27. Four bisections. 49 to 50 + 32.96

4, 14, 15, 30. Five bisections.

3. Barometer and thermometers read at $12^h\ 47^m$.

4. Barometer and thermometers read at $13^h\ 30^m$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	″	′ ″	′ ″	′ ″
1	— 5.6	— 15 58.3	. .	— 16 3.9
2	— 5.6	+ 15 58.3	. .	+ 15 52.7
3	— 5.0	. .	+ 0.1	— 4.9

ATE ND S'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
:pt'r					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
S.	1	λ Ursæ Minoris		5	42 41.66	+ 8.37	— 24.01	309 53 54.28	+ 3 38.40	— 1 5.8	19 42 26.02	. .	1 2 48.1	+ 2.8
	2	τ Aquilæ		8	58 47.17	0.00	— **23.93**	31 51 55.42	+ 4 12.97	+ 34.5	19 58 23.16	. .	83 3 4.1	+ 1.7
	3	a^2 Capricorni		9	11 55.23	+ 0.01	— **24.07**	51 43 54.35	+ 3 3.54	+ 1 10.2	20 11 31.23	. .	102 54 29.3	+ 1.6
	4	γ Cygni		9	18 24.60	+ 0.03	— **23.97**	358 55 56.65	+ 4 38.72	— 1.0	20 18 0.62	. .	50 6 55.6	+ 1.3
	5	α Cephei (R)		.	. . . .	. .	. .	203 5 53.95	+ 5 32.80	+ 23.8	. . . .	. .	27 54 30.6	— 1.6
	6	α Cephei		.	. . . .	. .	. .	336 43 53.42	+ 4 42.69	— 23.8	21 16 . .	. .	27 54 33.5	+ 1.3
	7	Weisse (2) 536		9	24 1.38	— 0.01	— 24.02	17 9 51.98	+ 3 23.81	+ 17.2	21 23 37.35	— 3.89	68 19 54.2	+30.6
	8	B. A. C. 7647		9	52 35.12	+ 0.07	— 24.03	77 41 53.98	+ 5 4.32	+ 4 10.7	21 52 11.16	— 5.03	128 57 30.2	+18.1
	9	θ Aquarii		9	11 1.68	0.00	— **24.05**	47 9 51.62	+ 4 52.82	+ 1 0.2	22 10 37.65	. .	98 22 5.8	+ 1.0
	10	π Aquarii		9	19 40.34	— 0.01	— **24.01**	38 1 55.02	+ 4 6.15	+ 43.7	22 19 16.30	. .	89 13 6.1	+ 1.1
R.	11	Groom. 3241		9	30 56.57	+ 0.31	— 24.00	326 41 52.58	+ 4 10.04	— 36.5	20 30 32.88	. .	17 51 47.3	+ 2.6
	12	Weisse (2) 1193	6.7	9	36 20.74	+ 0.05	— 24.00	355 47 54.52	+ 2 56.70	— 4.1	20 35 56.79	— 3.20	46 57 8.3	+32.2
	13	μ Aquarii		9	46 42.19	+ 0.03	— **23.99**	48 13 49.35	+ 4 9.61	+ 1 2.6	20 46 18.21	. .	99 25 22.8	— 0.1
	14	ν Cygni		9	53 11.57	+ 0.04	— **23.97**	358 5 53.70	+ 4 40.87	— 1.8	20 52 47.60	. .	49 16 54.0	+ 0.9
	15	σ^2 Ursæ Maj., S. P.		8	9 22.21	— 0.53	— 24.01	286 29 50.18	+ 3 27.00	— 3 5.4	8 59 57.67	. .	337 36 33.0	+ 2.6
	16	61^1 Cygni		9	2 1.58	+ 0.04	— **24.01**	0 39 49.40	+ 3 21.54	+ 0.7	21 1 37.61	. .	51 49 32.8	+ 1.1
	17	α Cephei (R)		.	. . . .	. .	. .	203 5 52.75	+ 5 34.01	+ 24.0	. . . .	. .	27 54 30.4	— 1.5
	18	α Cephei		4	16 11.60	+ 0.14	— 24.01	336 43 54.42	+ 4 41.49	— 24.0	21 15 47.73	. .	27 54 33.1	+ 1.2
	19	β Aquarii		9	25 45.89	+ 0.01	— **24.04**	44 53 54.35	+ 4 3.36	+ 55.8	21 25 21.89	. .	96 5 14.7	+ 1.1
	20	ξ Aquarii		9	31 53.30	+ 0.02	— **24.03**	47 11 50.78	+ 3 37.16	+ 1 0.5	21 31 29.31	. .	98 22 49.6	+ 0.2
	21	ε Pegasi		9	38 48.59	0.00	— **24.01**	29 29 49.40	+ 3 1.92	+ 31.7	21 38 24.58	. .	80 39 44.2	+ 1.2
	22	α Aquarii (R)		.	. . . .	. .	. .	140 9 49.55	+ 3 56.03	46.6	. . . .	. .	90 53 22.2	— 0.9
	23	α Aquarii		.	. . . .	. .	. .	39 41 50.02	+ 4 26.64	+ 46.6	22 0 . .	. .	90 53 24.5	+ 1.4
	24	θ Piscium		3	22 24.48	+ 0.01	— **24.11**	33 5 54.95	+ 3 7.87	+ 36.6	23 22 0.47	. .	84 16 0.6	+ 2.0
	25	ι Piscium		7	34 18.31	+ 0.01	— **24.01**	33 49 50.22	+ 3 49.82	+ 37.6	23 33 54.29	. .	85 0 38.8	+ 1.5
	26	Groom. 4163		7	49 34.98	+ 0.32	— 24.03	325 5 55.42	+ 3 1.34	— 39.0	23 49 11 27	. .	16 14 39.0	— 0.4
	27	ω Piscium		9	53 40.60	+ 0.01	— **24.00**	32 35 55.98	+ 4 20.14	+ 35.9	23 53 16.58	. .	83 47 13.2	— 1.0
	28	α Andromedæ		9	2 43.08	0.00	— **23.99**	10 23 53.02	+ 3 7.14	+ 10.3	0 2 19.05	. .	61 33 31.7	+ 1.4
	29	4 Dráconis, S. P.		6	6 56.72	— 0.80	— 24.03	297 7 57.50	+ 3 50.98	— 1 48.6	12 6 31.89	. .	348 16 21.1	+ 3.9
	30	12 Ceti		9	24 26.54	+ 0.01	— **24.09**	43 25 56.58	+ 3 15.57	+ 53.1	0 24 2.52	. .	94 36 26.5	+ 1.5
	31	α Cassiopeæ (R)		.	. . . .	. .	. .	196 53 50.92	+ 5 42.41	+ 17.1	. . . .	. .	34 6 30.8	+ 0.2
	32	α Cassiopeæ		4	34 15.64	+ 0.08	— 24.03	342 55 57.12	+ 4 31.08	— 17.1	0 33 51.69	. .	34 6 32.3	+ 1.7
	33	β Ceti		6	38 5.40	+ 0.03	— **23.97**	57 25 53.42	+ 4 15.19	+ 1 27.8	0 37 41.40	. .	108 37 57.6	+ 1.8
:ober S.	34	Moon I, S.		9	37 11.50	+ 0.04	— 23.99	57 57 56.60	+ 5 41.68	+ 1 28.9	19 36 47.55	+71.10	109 11 28.4	. .
	35	λ Ursæ Minoris		5	42 40.28	+ 6.81	— 23.99	309 53 52.30	+ 3 41.81	— 1 6.2	19 42 23.10	. .	1 2 49.1	+ 4.1
	36	a^2 Capricorni		9	11 55.12	+ 0.03	— **24.01**	51 43 52.40	+ 3 4.33	+ 1 10.6	20 11 31.18	. .	102 54 28.5	+ 0.8
	37	Weisse (2) 665		9	19 44.32	0.00	— 23.96	1 43 51.45	+ 3 41.04	+ 1.7	20 19 20.36	— 3.13	52 53 55.4	+ 30.8
	38	B. A. C. 7036		9	21 37.16	+ 0.08	— 23.96	74 45 54.30	+ 3 26.59	+ 3 22.0	20 21 13.28	— 4.75	125 59 4.1	+10.8
	39	ε Delphini		9	27 59.29	— 0.01	— **23.93**	27 53 53.32	+ 4 51.93	+ 29.6	20 27 35.32	. .	79 5 36.0	+ 1.0
	40	B. A. C. 7166		9	36 22.26	+ 0.05	— 23.95	343 13 54.32	+ 4 19.07	— 16.7	20 35 58.36	— 2.89	34 24 17.9	+ 33.3
	41	O. Arg. N. 21126	6.5	9	44 21.30	+ 0.02	— 23.94	351 27 57.52	+ 1 41.12	— 8.3	20 43 57.38	— 3.18	42 35 51.5	+ 33.0
	42	μ Aquarii		9	46 42.19	+ 0.01	— **23.99**	48 13 50.85	+ 4 8.39	+ 1 2.5	20 46 18.26	. .	99 25 22.9	— 0.1
	43	ν Cygni		9	53 11.56	0.00	— **23.94**	358 5 53.58	+ 4 41.54	— 1.8	20 52 47.62	. .	49 16 54.5	+ 1.5
	44	61^1 Cygni		9	2 1.46	0.00	— **23.86**	0 39 52.40	+ 3 18.01	+ 0.7	21 1 37.53	. .	51 49 32.3	+ 0.7
	45	B. A. C. 7643 (R)		.	. . . .	. .	. .	197 3 49.15	+ 5 41.91	+ 17.3	. . . .	. .	33 56 32.8	+34.3
	46	B. A. C. 7643		.	. . . .	. .	. .	342 45 54.28	+ 4 36.65	— 17.3	21 51 . .	. .	33 56 34.8	+34.3
	47	B. A. C. 7923 (R)		.	. . . .	. .	. .	170 37 53.18	+ 5 7.73	— 9.2	. . . .	. .	60 23 29.5	+32.6
	48	B. A. C. 7923		.	. . . .	. .	. .	9 11 49.92	+ 5 11.48	+ 9.2	22 38 . .	. .	60 23 31.8	+32.6
	49	ι Cephei		9	45 55.77	+ 0.10	— 23.86	333 15 53.62	+ 3 13.50	— 28.2	22 45 32.01	. .	24 25 0.1	+ 1.3
	50	B. A. C. 8068		9	3 36.91	+ 0.09	— 23.84	335 15 53.92	+ 2 58.95	— 25.8	23 3 13.16	— 5.45	26 24 48.3	+31.8

Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*	No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
in.	°	°			′ ″	′ ″	′ ″	′ ″
30.26	80.5	78.1		34	—50 15.8	— 16 13.1	. .	— 66 28.9
30.27	79.0	77.0	ZENITH-POINT CORR.					
30.28	79.2	76.4	″					
30.30	77.7	75.3	1, 34, 35. Three bisections. 1 to 10 + 32.96					
30.30	76.6	74.7	19. Four bisections. 11 to 33 + 33.39					
30.30	76.4	74.3	34 to 50 + 33.21					
30.30	76.1	73.7						
30.32	80.4	78.9						
30.34	74.4	74.9						

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
October					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
1, S.	1	B. A. C. 8113	.	9	12 52.47	+ 0.06	− 23.84	71 55 56.38	+ 5 16.34	+ 2 51.0	23 12 28.69	− 4.78	123 10 24.9	+ 24.4
	2	θ Piscium	.	9	22 24.24	− 0.02	**− 23.85**	33 5 54.55	+ 3 6.56	+ 36.7	23 22 0.39	. .	84 15 59.0	+ 0.5
	3	B. A. C. 8201	.	9	27 3.92	+ 0.08	− 23.83	77 13 50.58	+ 3 55.21	+ 4 3.5	23 26 40.17	− 4.86	128 28 10.5	+ 24.2
	4	ι Piscium	.	9	34 18.16	− 0.02	**− 23.83**	33 49 52.15	+ 3 46.86	+ 37.7	23 33 54.32	. .	85 0 37.9	+ 0.7
	5	B. A. C. 8343	.	9	56 3.48	+ 0.09	− 23.81	79 31 53.40	+ 5 4.50	+ 4 56.5	23 55 39.76	− 4.81	130 48 15.6	+ 25.2
	6	B. A. C. 8375	.	8	1 18.45	+ 0.09	− 23.80	78 17 54.62	+ 3 21.11	+ 4 25.4	0 0 54.74	− 4.77	129 32 2.3	+ 25.6
	7	γ Pegasi	.	8	7 34.95	− 0.02	**− 23.77**	24 17 56.02	+ 3 28.81	+ 25.5	0 7 11.13	. .	75 28 11.5	+ 0.1
5, S.	8	3 Ursæ Maj., S. P.	.	9	1 26.58	− 1.45	− 23.06	287 41 55.82	+ 3 38.67	− 3 2.8	8 1 2.07	. .	338 48 52.9	+ 0.0
	9	γ Cygni	.	9	19 23.52	+ 0.01	**− 23.01**	358 55 59.20	+ 4 34.39	− 1.0	20 19 0.47	. .	50 6 53.8	+ 0.2
	10	ε Delphini	.	9	27 58.53	− 0.23	**− 23.00**	27 53 57.35	+ 4 44.37	+ 31.5	20 27 35.24	. .	79 5 34.4	− 0.5
	11	B. A. C. 7166	.	9	36 21.04	+ 0.26	− 23.06	343 13 57.18	+ 4 16.25	− 17.8	20 35 58.24	− 2.76	34 24 16.8	+ 34.0
	12	O. Arg. N. 21129	5.7	9	44 20.32	+ 0.11	− 23.06	351 28 4.38	+ 1 33.63	− 8.9	20 43 57.37	− 3.08	42 35 50.3	+ 33.6
	13	γ Cygni	.	9	53 10.57	+ 0.02	**− 23.06**	358 5 59.42	+ 4 33.76	− 1.9	20 52 47.53	. .	49 16 52.5	+ 0.1
	14	61¹ Cygni	.	9	2 0.59	− 0.01	**− 23.06**	0 39 56.35	+ 3 11.27	+ 0.7	21 1 37.52	. .	51 49 29.5	− 1.4
	15	α Cephei	.	9	16 10.31	+ 0.43	− 23.06	336 43 59.82	+ 4 36.58	− 25.5	21 15 47.68	. .	27 54 32.1	+ 1.3
	16	O. Arg. N. 22275	.	9	23 4.67	+ 0.11	− 23.06	350 29 55.28	+ 4 14.97	− 9.9	21 22 41.72	− 3.55	41 40 21.5	+ 34.8
	17	β Aquarii	.	9	25 45.27	− 0.35	**− 23.12**	44 53 59.92	+ 3 52.49	+ 59.4	21 25 21.86	. .	96 5 13.0	− 0.7
	18	ξ Aquarii	.	9	31 52.69	− 0.36	**− 23.10**	47 11 55.40	+ 3 27.22	+ 1 4.4	21 31 29.27	. .	98 22 48.2	− 1.3
	19	μ Capricorni	.	9	47 16.30	− 0.40	**− 23.09**	52 53 59.90	+ 4 35.48	+ 1 18.9	21 46 52.84	. .	104 6 15.5	− 1.4
	20	B. A. C. 7647	.	9	52 34.67	− 0.58	− 23.06	77 41 58.55	+ 4 39.63	+ 4 29.1	21 52 11.03	− 4.95	128 57 28.5	+ 17.2
6, R.	21	Schwerd 1184	8.8	5	24 16.75	+ 12.03	− 22.04	311 11 59.78	+ 3 18.12	− 1 6.1	19 24 6.74	+ 25.04	2 20 33.0	+ 29.0
	22	λ Ursæ Minoris	.	6	42 11.18	+ 27.34	− 22.03	309 54 1.88	+ 3 33.47	− 1 9.3	19 42 16.49	. .	1 2 47.3	+ 2.7
	23	τ Aquilæ	.	9	58 45.34	− 0.23	**− 21.98**	31 52 2.00	+ 4 3.86	+ 36.3	19 58 23.09	. .	83 3 3.4	+ 1.1
	24	Lalande 38591	.	8	3 33.04	+ 0.02	− 22.02	4 44 4.08	+ 4 19.19	+ 4.9	20 3 11.04	− 2.95	55 54 49.4	+ 29.8
	25	a^2 Capricorni	.	9	11 53.52	− 0.38	**− 22.08**	51 43 58.95	+ 2 55.03	+ 1 13.9	20 11 31.13	. .	102 54 29.1	+ 1.3
	26	γ Cygni	.	9	18 22.36	+ 0.08	**− 21.94**	358 56 0.65	+ 4 33.67	− 1.0	20 18 0.43	. .	50 6 54.5	+ 1.0
	27	ε Delphini	.	9	27 57.49	− 0.21	**− 22.00**	27 53 57.68	+ 4 46.65	+ 31.0	20 27 35.28	. .	79 5 36.5	+ 1.6
	28	α Cygni (R)	.	.	. . . .	. .	. .	185 53 55.28	+ 4 12.05	+ 6.1	. . . .	. .	45 8 7.8	+ 1.2
	29	α Cygni	.	.	. . . .	. .	. .	353 58 2.05	+ 3 51.06	− 6.1	20 37 . .	. .	45 8 8.2	+ 1.6
	30	μ Aquarii	.	9	46 40.58	− 0.36	**− 22.08**	48 13 57.42	+ 3 58.72	+ 1 5.5	20 46 18.23	. .	99 25 22.8	− 0.3
	31	γ Cygni	.	9	53 9.38	+ 0.09	**− 21.96**	358 6 0.15	+ 4 32.99	− 1.9	20 52 47.48	. .	49 16 52.4	+ 0.1
	32	61¹ Cygni	.	5	1 59.41	+ 0.06	**− 21.97**	0 39 57.12	+ 3 12.67	+ 0.7	21 1 37.49	. .	51 49 31.7	+ 0.9
	33	1 Dracomis, S. P.	.	9	20 30.16	− 3.85	− 21.97	300 41 58.40	+ 3 49.74	− 1 37.9	9 20 4.34	. .	351 50 31.4	+ 2.9
	34	ι Piscium	.	9	34 16.62	− 0.25	**− 22.06**	33 49 57.35	+ 3 40.45	+ 39.3	23 33 54.47	. .	85 0 38.3	+ 1.3
	35	ω Piscium	.	3	53 38.70	− 0.24	**− 21.84**	32 36 3.75	+ 4 11.89	+ 37.5	23 53 16.57	. .	83 47 14.3	+ 0.4
	36	α Andromedæ	.	9	2 40.93	− 0.06	**− 21.77**	10 23 56.85	+ 3 2.03	+ 10.8	0 2 18.99	. .	61 33 30.9	+ 1.8
	37	γ Pegasi	.	9	7 33.23	− 0.18	**− 21.88**	24 18 2.40	+ 3 22.48	+ 26.5	0 7 11.17	. .	75 28 12.6	+ 1.7
	38	Moon I, N.	.	9	24 14.67	− 0.24	− 21.87	31 29 56.30	+ 2 42.06	+ 35.9	0 23 52.56	+ 68.18	82 39 35.5	. .
	39	α Cassiopeæ	.	9	34 13.23	+ 0.38	− 21.87	342 56 0.22	+ 4 27.07	− 17.9	0 33 51.74	. .	34 6 30.6	+ 1.8
7, W.	40	ζ Cygni	.	9	8 17.36	− 0.02	**− 21.48**	9 3 58.50	+ 4 37.77	+ 9.3	21 7 55.85	. .	60 15 6.8	+ 0.8
	41	α Cephei	.	9	16 8.37	+ 0.61	− 21.49	336 44 . .	. . .	. . .	21 15 47.49	. .	27 54 . .	. .
	42	Anonymous, S. P.	.	5	22 25.37	− 1.83	− 21.49	289 14 0.48	+ 6 57.71	− 2 42.1	9 22 2.05	− 3.46	340 24 37.3	+ 30.3
	43	ε Pegasi	.	9	38 46.12	− 0.19	**− 21.42**	29 29 57.68	+ 2 51.28	+ 32.6	21 38 24.44	. .	80 39 42.8	+ 0.1
	44	μ Capricorni	.	9	47 14.66	− 0.35	**− 21.52**	52 53 59.10	+ 4 42.11	+ 1 16.1	21 46 52.82	. .	104 6 18.5	+ 1.5
	45	79 Draconis	.	5	51 47.40	+ 1.32	− 21.49	325 41 59.05	+ 3 23.43	− 39.1	21 51 27.23	. .	16 51 4.6	+ 2.0
	46	α Aquarii	.	9	0 6.28	− 0.26	**− 21.52**	39 41 58.80	+ 4 16.36	+ 47.9	21 59 44.53	. .	90 53 24.3	+ 1.2
	47	θ Aquarii	.	9	10 59.39	− 0.31	**− 21.52**	47 9 57.75	+ 4 45.44	+ 1 2.1	22 10 37.59	. .	98 22 6.5	+ 1.6
	48	ι Cephei	.	9	45 52.71	+ 0.76	− 21.49	333 16 2.00	+ 3 3.19	− 28.9	22 45 31.98	. .	24 24 57.5	+ 0.6
	49	3 Piscium	.	9	54 57.98	− 0.26	− 21.49	39 16 2.10	+ 3 30.09	+ 47.1	22 54 36.23	− 4.39	90 26 40.5	+ 29.3
8, R.	50	λ Ursæ Minoris	.	6	42 7.70	+ 27.04	− 20.78	309 53 56.30	+ 3 36.31	− 1 7.0	19 42 13.96	. .	1 2 46.8	+ 2.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
7	30.34	75.4	73.5
8	30.30	51.2	47.3
20	30.34	47.6	44.0
22	30.34	57.7	56.6
24	30.33	57.4	55.2
33	30.34	55.7	53.7
34	30.33	55.4	53.2
38	30.33	55.4	53.2
40	30.32	64.8	62.4
46	30.32	63.8	61.7
49	30.31	62.9	61.4
50	30.13	72.0	70.2

For summary of the constants of reduction see page 3.

	ZENITH-POINT CORR.
	″
48. One bisection.	1 to 7 + 33.21
22, 24, 38, 39. Three bisections.	8 to 20 + 31.04
4, 10, 21, 23, 30, 33. Four bisections.	21 to 39 + 31.71
50. Five bisections.	40 to 49 + 31.37
	50 + 31.38

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
38	−30 57.7	+ 16 15.6	. .	− 14 42.1

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
ctober					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
R.	1	β Aquilæ		9	49 52.52	− 0.19	**− 20.82**	32 41 54.00	+ 4 11.64	+ 36.2	19 49 31.55	. .	83 53 3.0	+ 2.2
	2	τ Aquilæ		9	58 44.02	− 0.19	**− 20.73**	31 51 57.90	+ 4 10.33	+ 35.1	19 58 23.05	. .	83 3 4.5	+ 2.2
	3	α^2 Capricorni		9	11 52.19	− 0.31	**− 20.85**	51 43 52.12	+ 3 5.81	+ 1 11.4	20 11 31.10	. .	102 54 30.5	+ 2.7
	4	γ Cygni		9	18 21.00	+ 0.10	**− 20.65**	358 55 56.60	+ 4 38.21	− 1.0	20 18 0.32	. .	50 6 55.0	+ 1.7
	5	π Capricorni		9	20 55.84	− 0.34	**− 20.84**	57 23 56.08	+ 4 2.19	+ 1 28.0	20 20 34.72	. .	108 35 47.5	+ 1.0
	6	B. A. C. 7256 (R)		.	. . . .	. .	. .	168 37 59.92	+ 5 23.67	− 11.2	. . . .	. .	62 23 8.8	+31.2
	7	B. A. C. 7256		.	. . . .	. .	. .	11 11 57.00	+ 4 40.69	+ 11.2	20 50 . .	. .	62 23 10.1	+31.2
	8	61¹ Cygni		9	1 58.12	+ 0.08	**− 20.74**	0 39 55.08	+ 3 14.61	+ 0.7	21 1 37.42	. .	51 49 31.6	+ 1.1
	9	μ Capricorni		9	47 13.98	− 0.33	**− 20.87**	52 53 58.40	+ 4 44.56	+ 1 14.6	21 46 52.88	. .	104 6 18.8	+ 1.8
	10	α Aquarii		9	0 5.57	− 0.25	**− 20.83**	39 41 57.40	+ 4 19.62	+ 46.9	21 59 44.55	. .	90 53 25.1	+ 2.0
	11	π Aquarii		9	19 37.23	− 0.24	**− 20.74**	38 1 55.65	+ 4 5.61	+ 44.2	22 19 16.22	. .	89 13 6.7	+ 1.8
	12	9 Draconis, S. P.		9	25 20.68	− 2.40	− 20.77	295 9 53.10	+ 4 43.14	− 1 59.1	10 24 57.51	. .	346 18 58.3	− 1.2
	13	226 Cephei		9	30 35.30	+ 1.53	− 20.77	323 13 52.42	+ 3 8.72	− 42.1	22 30 16.06	. .	14 22 40.2	+ 2.4
	14	ζ Pegasi		8	35 56.79	− 0.18	**− 20.69**	28 36 1.22	+ 4 0.84	+ 30.8	22 35 35.84	. .	79 46 54.1	+ 2.9
	15	ι Cephei (R)		.	. . . .	. .	. .	206 35 54.65	+ 5 1.77	+ 28.4	. . . .	. .	24 24 56.4	− 0.2
	16	ι Cephei		.	. . . .	. .	. .	333 15 59.52	+ 3 5.76	− 28.4	22 45 . .	. .	24 24 58.1	+ 1.5
R.	17	ρ Leonis		9	26 55.42	− 0.18	**− 20.07**	28 53 57.40	+ 4 20.77	+ 31.7	10 26 35.09	. .	80 5 11.1	+ 2.0
	18	α Ursæ Maj. (R)		.	. . . .	. .	. .	203 25 54.52	+ 3 9.18	+ 24.8	. . . .	. .	27 36 52.7	+ 0.3
	19	α Ursæ Majoris		.	. . . .	. .	. .	336 26 2.10	+ 4 56.38	− 24.8	10 56 . .	. .	27 36 54.9	+ 2.5
	20	δ Crateris		9	13 46.21	− 0.32	**− 20.18**	52 56 2.50	+ 4 36.86	+ 1 15.4	11 13 25.77	. .	104 8 16.0	− 1.2
	21	λ Draconis		9	24 39.13	+ 0.95	− 20.11	328 49 52.28	+ 5 34.41	− 34.3	11 24 19.97	. .	20 1 13.6	+ 1.7
	22	γ Cephei, S. P.		9	34 59.29	− 2.40	− 20.11	295 49 53.75	+ 4 20.21	− 1 56.3	23 34 36.78	. .	346 58 38.9	+ 2.0
	23	β Leonis		9	43 21.72	− 0.12	**− 20.15**	23 33 56.15	+ 5 21.78	+ 24.9	11 43 1.50	. .	74 46 4.0	+ 1.5
	24	γ Ursæ Majoris		9	47 55.02	+ 0.35	− 20.10	344 27 58.22	+ 4 58.34	− 15.7	11 47 35.27	. .	35 39 2.1	+ 1.7
	25	κ Draconis		9	28 41.84	+ 1.01	− 20.07	328 23 59.02	+ 3 58.41	− 34.7	12 28 22.78	. .	19 33 43.9	+ 1.0
	26	α^2 Can. Ven.		5	50 48.89	+ 0.10	**− 20.04**	359 52 . .	. .	. .	12 50 28.94	. .	51 2 . .	. .
	27	Sun I, S.		9	3 52.74	− 0.25	− 20.05	45 58 2.90	+ 3 45.61	+ 58.4	13 3 32.44	+64.82	97 9 8.1	. .
	28	Sun II, N.		9	6 2.38	− 0.25	− 20.05	45 26 2.32	+ 3 43.77	+ 57.3	13 5 42.08	−64.82	96 37 4.6	. .
	29	Polaris, S. P.		6	17 13.92	−21.34	− 20.04	307 31 56.22	+ 3 45.81	− 1 13.1	1 16 32.54	. .	358 40 50.1	+ 2.1
	30	η Bootis		9	49 22.97	− 0.09	**− 20.01**	19 49 55.48	+ 3 55.30	+ 20.4	13 49 2.86	. .	71 0 32.4	+ 3.3
	31	α Draconis		1	1 28.07	+ 0.71	**− 20.01**	333 53 57.12	+ 3 40.38	− 27.5	14 1 8.77	. .	25 3 31.2	+ 1.7
	32	α Bootis (R)		.	. . . .	. .	. .	160 49 54.48	+ 4 44.25	− 19.5	. . . .	. .	70 12 2.0	+ 1.3
	33	α Bootis		.	. . . .	. .	. .	18 59 54.52	+ 5 26.98	+ 19.5	14 10 . .	. .	70 12 2.2	+ 1.5
	34	ρ Bootis		9	27 3.44	+ 0.02	**− 19.98**	7 55 54.92	+ 4 3.82	+ 7.9	14 26 43.47	. .	59 6 27.8	+ 1.1
	35	Mercury I, C.		9	33 31.93	− 0.32	− 19.99	56 25 58.80	+ 4 37.99	+ 1 25.2	14 33 11.62	+ 0.21	117 38 23.2	. .
	36	ε Bootis		8	40 8.86	− 0.02	**− 19.94**	11 13 56.45	+ 5 4.53	+ 11.3	14 39 48.86	. .	62 25 33.5	+ 4.0
	37	β Ursæ Minoris		9	51 17.58	+ 1.42	− 19.97	324 11 53.78	+ 4 2.32	− 40.7	14 50 59.03	. .	15 21 36.6	+ 2.1
	38	β Bootis		9	57 48.58	+ 0.13	**− 20.02**	357 57 59.88	+ 4 8.13	− 1.9	14 57 28.74	. .	49 8 27.3	+ 2.4
	39	ζ Aquilæ		9	0 19.51	− 0.17	**− 19.98**	25 7 58.15	+ 3 41.41	+ 27.0	18 59 59.39	. .	76 18 27.8	+ 3.1
	40	O. Arg. N. 19153	8.5	7	13 46.01	+ 1.54	− 19.94	321 57 58.52	+10 39.16	− 44.7	19 13 27.61	+ 2.39	13 14 14.2	+29.3
	41	Anonymous	10.5	9	30 41.09	− 0.41	− 19.94	65 21 54.12	+ 0 13.72	+ 2 5.1	19 30 20.74	− 4.06	116 30 34.1	+ 9.1
	42	Anonymous	10.0	3	31 31.71	− 0.41	− 19.94	65 21 54.12	+ 7 22.39	+ 2 5.7	19 31 11.36	− 4.07	116 37 43.4	+ 9.1
	43	Lalande 37527	6.5	9	38 32.51	− 0.03	− 19.94	6 39 54.20	+ 4 28.33	+ 1.8	19 38 12.54	− 2.69	57 50 45.5	+27.8
	44	λ Ursæ Minoris	.	5	42 9.16	+23.83	− 19.94	309 53 54.65	+ 3 40.99	− 1 8.8	19 42 13.05	. .	1 2 48.0	+ 3.9
	45	Weisse (2) 1739.	6.5	9	54 17.71	− 0.04	− 19.94	8 9 50.85	+ 3 30.79	+ 8.4	19 53 57.73	− 2.87	59 19 51.2	+28.7
	46	Lalande 38415	.	9	0 21.44	− 0.17	− 19.94	23 39 53.40	+ 3 15.93	+ 25.4	20 0 1.33	− 3.27	74 49 55.9	+25.3
	47	α^2 Capricorni	.	9	11 51.32	− 0.34	**− 19.98**	51 43 57.65	+ 2 57.24	+ 1 13.4	20 11 31.05	. .	102 54 29.5	+ 1.6
	48	γ Cygni.	.	9	18 20.20	+ 0.04	**− 19.83**	358 55 56.05	+ 4 39.71	− 1.0	20 18 0.31	. .	50 6 56.0	+ 2.9
	49	Weisse (2) 665	7.2	3	19 40.21	0.00	− 19.93	1 43 54 95	+ 3 38.67	+ 1.8	20 19 20.28	− 2.93	52 53 56.6	+31.6
	50	ε Delphini	.	9	27 55.33	− 0.20	**− 19. 9**	27 53 56.28	+ 4 48.65	+ 30.8	20 27 35.20	. .	79 5 36.9	+ 2.1

).	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*	No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°			′ ″	′ ″	′ ″	′ ″
3	30.10	70.2	68.1		27	− 6.4	− 16 1.7	. .	− 16 8.1
)	30.09	69.7	68.1	ZENITH-POINT CORR.	28	− 6.3	+ 16 1.7	. .	+ 15 55.4
5	30.08	68.9	67.0		35	− 6.7	. . .	+ 0.3	− 6.4
7	30.17	61.4	61.5	″					
2	30.18	65.2	66.1	4, 41, 43. One bisection. 1 to 16 + 31.38					
5	30.19	66.9	68.0	25, 40. Three bisections. 17 to 38 + 31.33					
3	30.20	67.9	69.7	2, 9, 12, 22, 23, 29, } Four bisections.					
)	30.19	68.4	70.2	31, 35, 37, 38, 39, 44. } 39 to 50 + 31.93					
3	30.20	74.7	67.9						
)	30.25	62.7	60.8						
5	30.29	60.3	58.3						
				16. Barometer and thermometers read at 22^h 58^m.					

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
October 10, R.	1	B. A. C. 7166	6.3	9	36 17.83	+ 0.29	− 19.93	343 13 55.50	+ 4 18.90	− 17.4	20 35 58.19	− 2.59	34 24 18.2	+34.7
	2	O. Arg. N. 21126	4.5	9	44 16.99	+ 0.14	− 19.93	351 28 0.70	+ 1 39.05	− 8.7	20 43 57.20	− 2.95	42 35 52.3	+34.3
	3	γ Cygni		9	53 7.34	+ 0.05	**− 19.97**	358 5 56.25	+ 4 38.38	− 1.9	20 52 47.46	. .	49 16 53.9	+ 2.1
	4	B. A. C. 7280		8	54 24.39	− 0.46	− 19.93	71 29 52.25	+ 4 1.19	+ 2 52.6	20 54 4.00	− 4.56	122 43 7.2	+14.0
	5	ζ Cygni (R)			. . . .	. .	. .	170 45 55.08	+ 5 32.60	− 9.4	. . . .	. .	60 15 2.9	− 2.8
	6	ζ Cygni			. . . .	. .	. .	9 3 54.30	+ 4 42.60	+ 9.4	21 8 . .	. .	60 15 7.5	+ 1.8
	7	Weisse (2) 536		9	23 57.33	− 0.13	− 19.92	17 9 53.40	+ 3 21.37	+ 18.1	21 23 37.28	− 3.74	68 19 54.1	+31.6
	8	Groom. 3511		9	28 37.96	+ 2.09	− 19.92	318 49 53.32	+ 3 42.99	− 50.9	21 28 20.13	− 2.92	9 59 6.6	+35.7
	9	α Gruis		9	1 9.57	− 0.60	− 19.92	86 7 59.65	+ 5 23.87	+12 17.8	22 0 49.05	. .	137 32 2.5	+ 6.4
	10	32 Ursæ Maj., S. P.		9	9 46.06	− 1.33	− 19.91	284 35 57.75	+ 2 56.68	− 3 40.5	10 9 24.82	. .	335 41 35.1	+ 1.1
	11	π Aquarii		9	19 36.43	− 0.28	**− 19.92**	38 1 57.60	+ 4 1.71	+ 46.0	22 19 16.24	. .	89 13 6.5	+ 1.6
	12	B. A. C. 7909		9	36 9.94	− 0.46	− 19.91	68 47 58.20	+ 1 46.95	+ 2 30.7	22 35 49.57	− 4.67	119 58 37.1	+21.8
	13	Bradley 3011[1]		5	42 6.52	− 0.31	− 19.91	43 38 3.12	+ 4 58.58	+ 56.2	22 41 46.30	− 4.36	94 50 19.1	+28.1
	14	Bradley 3011[2]		5	42 6.66	− 0.31	− 19.91	43 38 3.12	+ 4 57.08	+ 56.2	22 41 46.44	− 4.36	94 50 17.6	+28.1
	15	Piazzi XXII, 220		3	42 8.84	− 0.31	− 19.91	43 38 3.12	+ 5 34.72	+ 56.2	22 41 48.62	− 4.36	94 50 55.2	+28.1
	16	B. A. C. 7998		9	52 22.66	− 0.51	− 19.91	74 53 56.88	+ 5 6.54	+ 3 36.1	22 52 2.24	− 4.80	126 9 0.7	+21.2
	17	B. A. C. 8025		9	57 19.84	− 0.51	− 19.91	74 9 54.78	+ 3 28.65	+ 3 25.6	22 56 59.42	− 4.78	125 23 10.2	+21.6
	18	B. A. C. 8045		9	0 41.28	− 0.54	− 19.91	78 15 58.22	+ 4 48.38	+ 4 38.5	23 0 20.83	− 4.88	129 31 46.3	+20.9
	19	Piazzi XXIII, 41	7	5	13 15.69	− 0.37	− 19.90	52 53 56.18	+ 4 6.01	+ 1 18.1	23 12 55.42	− 4.49	104 5 41.5	+27.0
	20	Piazzi XXIII, 42	5	6	13 15.89	− 0.37	− 19.90	52 53 56.18	+ 4 20.98	+ 1 18.1	23 12 55.62	− 4.49	104 5 56.5	+27.0
	21	θ Piscium		9	22 20.57	− 0.26	**− 19.97**	33 5 58.50	+ 3 0.68	+ 38.6	23 22 0.41	. .	84 15 59.0	+ 0.8
	22	B. A. C. 8201		9	27 0.54	− 0.53	− 19.90	77 13 57.05	+ 3 35.66	+ 4 16.3	23 26 40.11	− 4.81	128 28 10.2	+22.5
	23	ι Piscium		9	34 14.49	− 0.26	**− 19.93**	33 49 54.40	+ 3 41.55	+ 39.7	23 33 54.33	. .	85 0 36.9	0.0
	24	Groom. 4163		9	49 30.14	+ 1.05	− 19.90	325 5 58.55	+ 2 59.13	− 41.2	23 49 11.29	. .	16 14 37.7	+ 1.8
	25	B. A. C. 8343		5	56 0.02	− 0.56	− 19.90	79 31 54.40	+ 4 47.39	+ 5 12.7	23 55 39.56	− 4.79	130 48 15.7	+23.4
	26	α Andromedæ		9	2 39.00	− 0.11	**− 19.79**	10 23 54.90	+ 3 2.85	+ 10.9	0 2 19.00	. .	61 33 29.9	+ 1.4
	27	4 Draconis, S. P.		6	6 55.12	− 2.33	− 19.89	297 7 59.32	+ 3 49.89	− 1 54.8	12 6 32.90	. .	348 16 15.6	+ 2.2
	28	Harmonia	9.2	9	14 47.81	− 0.34	− 19.89	45 38 1.98	+ 4 33.35	+ 1 0.7	0 14 27.58	. .	96 49 57.2	− 5.3
	29	Miriam	11.5	9	25 7.51	− 0.26	− 19.89	32 35 57.48	+ 6 7.70	+ 38.1	0 24 47.36	. .	83 49 4.5	− 4.6
	30	η[1] Cassiopeæ	3	6	42 20.63	+ 0.27	− 19.89	341 38 2.78	+ 4 25.86	− 19.5	0 42 1.01	− 6.30	32 48 30.2	+27.7
	31	η[2] Cassiopeæ	8	5	42 20.71	+ 0.27	− 19.89	341 38 2.78	+ 4 32.62	− 19.6	0 42 1.09	− 6.30	32 48 37.0	+27.7
	32	B. A. C. 261		9	51 26.68	+ 0.53	− 19.89	333 8 2.68	+ 3 12.43	− 30.0	0 51 7.32	− 7.45	24 17 6.3	+26.0
	33	D. M. + 30°, 161	10.5	9	59 48.70	− 0.10	− 19.89	8 19 53.28	+ 3 26.79	+ 8.8	0 59 28.71	− 5.12	59 29 50.1	+27.9
	34	Pandora	9.7	9	10 1.48	− 0.25	− 19.88	29 31 55.38	+ 4 1.80	+ 33.8	1 9 41.35	. .	80 42 52.2	− 3.2
	35	Polaris		5	16 34.30	+16.89	− 19.88	310 9 52.40	+ 4 9.30	− 1 10.3	1 16 31.31	. .	1 19 12.6	+ 0.7
	36	η Piscium		9	25 31.93	− 0.22	**− 19.88**	24 3 57.42	+ 4 54.84	+ 26.7	1 25 11.83	. .	75 15 40.2	+ 1.7
	37	ο Piscium		9	39 31.53	− 0.26	**− 19.90**	30 15 56.85	+ 3 10.90	+ 34.9	1 39 11.39	. .	81 26 3.9	− 0.6
	38	β Arietis		9	48 29.08	− 0.18	**− 19.86**	18 35 56.70	+ 3 24.18	+ 20.2	1 48 9.02	. .	69 46 2.3	− 0.6
	39	50 Cassiopeæ (R)			. . . .	. .	. .	212 51 51.28	+ 4 48.01	+ 38.7	. . . .	. .	18 9 3.2	+ 0.9
	40	50 Cassiopeæ			. . . .	. .	. .	326 59 55.05	+ 3 25.47	− 38.7	1 53 . .	. .	18 9 3.0	+ 0.7
	41	α Draconis, S. P.		6	1 29.75	− 1.23	− 19.87	283 49 50.30	+ 4 16.55	− 3 57.2	14 1 8.65	. .	334 56 30.8	+ 0.4
W.	42	α Ursæ Majoris		9	56 43.64	+ 0.59	− 19.99	336 26 2.85	+ 4 56.06	− 26.0	10 56 24.24	. .	27 36 54.1	+ 1.4
	43	δ Leonis		9	8 9.17	− 0.22	**− 19.96**	17 38 2.52	+ 5 4.27	+ 19.1	11 7 48.97	. .	68 49 47.1	+ 0.2
	44	β Leonis		4	43 21.72	− 0.28	**− 19.98**	23 34 1.00	+ 5 17.21	+ 26.1	11 43 1.48	. .	74 46 5.5	+ 2.8
	45	γ Ursæ Majoris		9	47 55.02	+ 0.32	− 19.96	344 28 3.32	+ 4 53.92	− 16.4	11 47 35.38	. .	35 39 2.0	+ 1.3
11	46	Sun I, S.		9	7 34.03	− 0.46	− 19.91	46 20 2.38	+ 4 27.99	+ 1 2.0	13 7 13.66	+64.89	97 31 53.6	. .
	47	Sun II, N.		9	9 43.81	− 0.46	− 19.91	45 48 6.28	+ 4 14.81	+ 1 0.8	13 9 23.44	−64.89	96 59 43.1	. .
	48	Polaris, S. P.		8	17 22.15	−25.57	− 19.90	307 31 59.00	+ 3 48.99	− 1 16.5	1 16 36.68	. .	358 40 52.7	+ 4.4
	49	η Ursæ Majoris		9	43 11.27	+ 0.24	− 19.89	348 55 59.62	+ 3 38.71	− 11.5	13 42 51.62	. .	40 5 48.0	+ 2.9
	50	η Bootis		9	49 22.97	− 0.22	**− 19.88**	19 49 59.35	+ 3 50.00	+ 21.3	13 49 2.87	. .	71 0 31.9	+ 2.6

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.30	59.7	56.8
8	30.33	57.8	54.9
18	30.38	54.4	50.5
23	30.40	53.1	49.3
29	30.41	51.1	47.6
34	30.42	50.3	46.6
38	30.43	49.3	45.4
41	30.43	48.8	44.5
42	30.56	48.7	46.6
47	30.53	53.9	51.8

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

		″
15.	One bisection.	1 to 41 + 31.93
8, 9, 27, 41, 48.	Three bisections.	42 to 50 + 31.52
10, 22, 24, 35, 37.	Four bisections.	

29. Barometer and thermometers read at $0^h\ 33^m$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
46	− 6.4	− 16 5.2	. .	− 16 11.6
47	− 6.4	+ 16 5.3	. .	+ 15 58.9

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
October 11, W.	1	α Bootis		9	10 35.66	− 0.21	**− 19.77**	18 59 53.90	+ 5 28.68	+ 20.3	14 10 15.58	. .	70 12 4.1	+ 3.2
	2	ε Bootis		9	40 8.89	− 0.13	**− 19.86**	11 13 55.38	+ 5 3.40	+ 11.7	14 39 48.91	. .	62 25 31.7	+ 2.0
	3	β Ursæ Minoris		9	51 17.34	+ 1.65	− 19.84	324 12 . .	. .	. .	14 50 59.15	. .	15 22 . .	. .
	4	β Bootis		9	57 48.53	+ 0.06	**− 19.91**	357 57 59.25	+ 4 10.52	− 2.0	14 57 28.75	. .	49 8 29.0	+ 3.9
	5	α Cor. Bor		9	30 0.41	− 0.13	**− 19.77**	11 41 56.88	+ 4 34 84	+ 12.2	15 29 40.46	. .	62 53 5.1	+ 2.6
	6	α Serpentis		9	38 46.72	− 0.34	**− 19.80**	31 59 55.65	+ 5 8.31	+ 36.7	15 38 26.57	. .	83 12 1.9	+ 3.5
	7	β^1 Scorpii		9	58 54.38	− 0.56	**− 19.88**	58 16 3.62	+ 4 50.49	+ 1 34.6	15 58 34.02	. .	109 28 49.9	+ 1.7
	8	α^2 Capricorni		9	11 51.27	− 0.47	**− 19.82**	51 43 53.82	+ 2 58.05	+ 1 14.8	20 11 31.02	. .	102 54 27.9	0.0
	9	γ Cygni		9	18 19.99	+ 0.12	**− 19.73**	358 55 56.10	+ 4 35.93	− 1.0	20 18 0.33	. .	50 6 52.2	− 0.9
	10	B. A. C. 7036		9	21 33.53	− 0.72	− 19.78	74 45 56.32	+ 3 12.81	+ 3 34.2	20 21 13.03	− 4.55	125 59 4.5	+ 10.1
	11	ε Delphini		9	27 55.23	− 0.25	**− 19.78**	27 53 57.02	+ 4 45.14	+ 31.4	20 27 35.20	. .	79 5 34.8	0.0
	12	Groom. 3241		8	30 51.01	+ 1.47	− 19.78	326 41 55.58	+ 4 6.24	− 38.7	20 30 32.70	. .	17 51 44.3	+ 1.5
	13	α Cygni		9	37 44.97	+ 0.21	− 19.77	353 57 55.32	+ 3 56.69	− 6.2	20 37 25.41	. .	45 8 7.0	+ 0.9
	14	γ^1 Delphini		6	41 30.93	− 0.20	− 19.77	23 5 52.70	+ 5 6.80	+ 25.3	20 41 10.96	− 3.51	74 17 46.0	+ 28.2
	15	γ^2 Delphini		5	41 31.64	− 0.20	− 19.77	23 5 52.70	+ 5 7.51	+ 25.3	20 41 11.67	− 3.51	74 17 46.7	+ 28.2
	16	O. Arg. N. 21161[1]		9	45 29.61	+ 0.36	− 19.77	347 21 53.12	+ 3 15.85	− 13.1	20 45 10.20	− 2.83	38 31 17.1	+ 34.9
	17	12 Y. Cat. 1879		5	53 14.71	+ 3.07	− 19.77	318 43 54.68	+ 3 42.12	− 51.7	20 52 58.01	. .	9 53 6.3	+ 0.2
	18	σ^2 Ursæ Maj., S. P.		9	0 19.74	− 1.93	− 19.77	286 29 52.32	+ 3 29.50	− 3 16.3	8 59 58.04	. .	337 36 26.7	− 1.2
	19	B. A. C. 7398		9	13 7.72	+ 0.09	− 19.77	359 55 58.95	+ 3 18.14	0.0	21 12 48.04	− 3.42	51 5 38.3	+ 34.4
	20	Weisse (2) 536		9	23 57.13	− 0.14	− 19.77	17 9 53.15	+ 3 18.17	+ 18.4	21 23 37.22	− 3.72	68 19 50.9	+ 31.7
	21	Groom. 3511		8	28 38.03	+ 3.01	− 19.76	318 49 52.45	+ 3 42.19	− 51.6	21 28 21.28	− 2.81	9 59 4.2	+ 35.9
	22	B. A. C. 7643 (R)			. . . .	. .	. .	197 3 52.40	+ 5 39.81	+ 18.3	. . . .	. .	33 56 30.7	+ 36.6
	23	B. A. C. 7643			. . . .	. .	. .	342 45 53.98	+ 4 34.22	− 18.3	21 51 . .	. .	33 56 31.1	+ 36.6
	24	α Aquarii (R)			. . . .	. .	. .	140 9 55.80	+ 3 56.29	− 49.3	. . . .	. .	90 53 18.4	− 4.7
	25	α Aquarii			. . . .	. .	. .	39 41 55.02	+ 4 18.65	+ 49.3	22 0 . .	. .	90 53 24.2	+ 1.1
	26	B. A. C. 7923		9	37 49.66	− 0.06	− 19.75	9 11 51.55	+ 5 7.08	+ 9.7	22 37 29.85	− 2.24	60 23 29.5	+ 34.1
	27	Bradley 3011[1]		3	42 6.31	− 0.42	− 19.75	43 37 59.22	+ 5 0.21	+ 56.8	22 41 46.14	− 4.35	94 50 17.4	+ 28.0
	28	Bradley 3011[2]		5	42 6.72	− 0.42	− 19.75	43 37 59.22	+ 4 59.35	+ 56.8	22 41 46.55	− 4.35	94 50 16.6	+ 28.0
	29	Piazzi XXII, 220		3	42 8.85	− 0.42	− 19.75	43 37 59.22	+ 5 36.47	+ 56.8	22 41 48.68	− 4.35	94 50 53.7	+ 28.0
	30	B. A. C. 7987		9	49 46.48	− 0.71	− 19.75	71 55 57.68	+ 4 48.32	+ 3 1.3	22 49 26.02	− 4.72	123 10 8.5	+ 21.6
	31	3 Piscium		9	54 56.26	− 0.38	− 19.75	39 15 57.60	+ 3 33.54	+ 48.7	22 54 36.13	− 4.36	90 26 41.0	+ 29.2
	32	B. A. C. 8045		9	0 41.34	− 0.80	− 19.75	78 15 55.50	+ 4 49.61	+ 4 41.3	23 0 20.79	− 4.87	129 31 47.6	+ 20.7
	33	B. A. C. 8068		9	3 32.29	+ 0.78	− 19.75	335 15 58.38	+ 2 50.99	− 27.4	23 3 13.32	− 5.28	26 24 43.2	+ 34.9
	34	Piazzi XXIII, 41		6	13 15.62	− 0.50	− 19.75	52 53 56.85	+ 4 5.42	+ 1 18.8	23 12 55.37	− 4.49	104 5 42.3	+ 26.9
	35	Piazzi XXIII, 42		5	13 15.76	− 0.50	− 19.75	52 53 56.85	+ 4 18.93	+ 1 18.8	23 12 55.51	− 4.49	104 5 55.8	+ 26.9
	36	B. A. C. 3906, S. P		5	23 43.17	− 4.52	− 19.74	300 39 55.30	+ 1 51.70	− 1 40.1	11 23 18.91	+ 3.81	351 46 28.1	+ 30.1
	37	B. A. C. 8268		9	41 39.56	+ 0.53	− 19.74	340 49 49.28	+ 4 18.47	− 20.7	23 41 20.35	− 5.58	32 0 8.3	+ 32.9
	38	Groom. 4163		8	49 30.15	+ 1.60	− 19.74	325 5 57.98	+ 2 59.46	− 41.6	23 49 12.01	. .	16 14 37.0	+ 1.4
	39	B. A. C. 8343		9	56 0.27	− 0.83	− 19.74	79 31 53.00	+ 4 47.70	+ 5 15.6	23 55 39.70	− 4.79	130 48 17.5	+ 23.2
	40	B. A. C. 8357		9	57 45.42	− 0.77	− 19.73	75 39 55.82	+ 4 17.70	+ 3 51.0	23 57 24.92	− 4.71	126 54 25.7	+ 23.9
	41	Harmonia		9	13 57.92	− 0.45	− 19.73	45 41 56.18	+ 4 13.38	+ 1 1.4	0 13 37.74	. .	96 53 32.2	− 5.3
	42	Miriam		9	24 32.12	− 0.33	− 19.73	32 45 58.72	+ 4 38.22	+ 38.6	0 24 12.06	. .	83 57 36.7	− 4.7
	43	B. A. C. 144		9	29 16.39	− 0.80	− 19.73	77 23 53.88	+ 4 6.64	+ 4 23.4	0 28 55.86	− 4.65	128 38 45.1	+ 24.6
	44	β Ceti		4	38 1.76	− 0.56	**− 19.70**	57 25 53.98	+ 4 9.32	+ 1 33.8	0 37 41.47	. .	108 37 58.3	+ 1.3
	45	η^1 Cassiopeæ		6	42 20.42	+ 0.49	− 19.73	341 37 58.28	+ 4 30.76	− 19.8	0 42 1.18	− 6.30	32 48 30.4	+ 28.0
	46	η^2 Cassiopeæ		5	42 20.49	+ 0.49	− 19.73	341 37 58.28	+ 4 35.14	− 19.8	0 42 1.25	− 6.30	32 48 34.8	+ 28.0
	47	Danaë		9	58 18.79	− 0.06	− 19.72	8 19 53.52	+ 4 33.32	+ 8.9	0 57 59.01	. .	59 30 56.9	− 0.8
	48	β Andromedæ		4	3 29.37	0.00	**− 19.75**	3 49 55.15	+ 3 52.19	+ 4.1	1 3 9.65	. .	55 0 12.6	+ 1.2
	49	Polaris		7	16 31.54	+ 24.98	− 19.72	310 9 48.58	+ 4 14.37	− 1 10.6	1 16 36.80	. .	1 19 13.6	+ 2.1
	50	η Piscium		9	25 31.87	− 0.24	**− 19.79**	24 3 54.40	+ 4 57.26	+ 26.8	1 25 11.91	. .	75 15 39.7	+ 1.3

No.	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*	No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°			′ ″	′ ″	′ ″	′ ″
4	30.51	58.8	55.9						
7	30.50	57.2	56.6	ZENITH-POINT CORR.					
8	30.46	53.3	51.4						
18	30.47	53.0	50.6	″					
36	30.46	49.2	46.4	27, 28. One bisection. 1 to 7 + 31.52					
46	30.45	46.8	43.7	18, 49. Three bisections. 8 to 50 + 30.68					
				41, 47. Four bisections.					

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
October 11, W.	1	o Piscium		9	39 31.37	− 0.30	− **19.70**	30 15 59.10	+ 3 9.51	+ 34.9	1 39 11.35	. .	81 26 4.7	+ 0.2
	2	β Arietis		9	48 28.98	− 0.28	− **19.66**	18 35 56.42	+ 3 25.71	+ 20.2	1 48 8.99	. .	69 46 3.5	+ 0.7
	3	α Arietis (R)		.	. . . .	. .	. .	163 55 56.18	+ 5 0.33	− 17.1	. . . .	. .	67 5 41.8	− 1.7
	4	α Arietis		.	. . . .	. .	. .	15 55 53.15	+ 3 11.40	+ 17.1	2 0 . .	. .	67 5 42.9	+ 2.8
13, S.	5	κ Aquilæ		9	30 51.91	− 0.38	− **18.66**	46 5 58.95	+ 3 54.44	+ 58.0	19 30 32.87	. .	97 17 12.6	+ 1.5
	6	λ Ursæ Minoris		5	41 52.84	+ 32.92	− 18.65	309 53 57.75	+ 3 32.15	− 1 6.4	19 42 7.11	. .	1 2 44.7	+ 0.9
	7	O. Arg. N. 19720		9	48 44.48	+ 0.22	− 18.64	352 7 59.50	+ 2 2.08	− 7.7	19 48 26.06	− **2.21**	43 16 15.1	+ 31.2
	8	Weisse (2) 1739		9	54 16.20	− 0.04	− 18.64	8 9 52.70	+ 3 26.76	+ 8.1	19 53 57.52	− **2.80**	59 19 48.8	+ 28.8
	9	Lalande 38380		9	59 5.38	− 0.05	− 18.63	9 13 56.85	+ 4 15.86	+ 9.1	19 58 46.70	− **2.87**	60 24 43.0	+ 28.9
	10	B. A. C. 6922		9	3 46.42	− 0.62	− 18.63	75 9 55.60	+ 4 3.43	+ 3 28.1	20 3 27.17	− 4.46	126 23 48.3	+ 8.3
	11	a^2 Capricorni		9	11 49.99	− 0.42	− **18.62**	51 43 58.20	+ 2 59.12	+ 1 10.8	20 11 30.95	. .	102 54 29.3	+ 1.3
	12	Weisse (2) 665		9	19 38.60	+ 0.05	− 18.61	1 43 57.05	+ 3 34.17	+ 1.7	20 19 20.04	− 2.86	52 53 54.1	+ 31.8
	13	B. A. C. 7051	7.5	8	21 49.44	+ 0.69	− 18.60	336 58 0.25	+ 2 32.59	− 23.7	20 21 31.53	− 1.91	28 6 30.3	+ 34.6
	14	Groom. 3241		9	30 49.03	+ 1.41	− 18.59	326 41 55.90	+ 4 3.49	− 36.6	20 30 31.85	. .	17 51 44.0	+ 1.4
	15	Taylor 9666		9	50 11.44	− 0.71	− 18.57	83 15 57.55	+ 3 22.62	+ 7 22.9	20 49 52.16	− 4.92	134 33 4.3	+ 9.5
	16	B. A. C. 7477		9	25 6.29	+ 0.15	− 18.53	355 1 57.15	+ 2 8.27	− 4.8	21 24 47.91	− 3.45	46 10 21.8	+ 35.6
	17	B. A. C. 7489		9	27 49.12	+ 0.33	− 18.53	346 43 55.68	+ 3 38.87	− 13.2	21 27 30.92	− 3.38	37 53 42.6	+ 36.4
	18	ξ Aquarii		8	31 48.07	− 0.40	− **18.54**	47 11 55.40	+ 3 33.04	+ 1 0.7	21 31 29.15	. .	98 22 50.3	− 0.6
	19	ε Pegasi		9	38 43.14	− 0.26	− **18.45**	29 29 56.10	+ 2 54.25	+ 31.8	21 38 24.37	. .	80 39 43.4	+ 0.9
	20	μ Capricorni		9	47 11.71	− 0.44	− **18.55**	52 53 57.60	+ 4 46.06	+ 1 14.4	21 46 52.77	. .	104 6 19.3	+ 2.0
	21	B. A. C. 7749 (R)		.	. . . .	. .	. .	198 37 58.42	+ 5 36.41	+ 19.0	. . . .	. .	32 22 27.4	+ 37.0
	22	B. A. C. 7749		.	. . . .	. .	. .	341 11 56.25	+ 4 32.99	− 19.0	22 7 . .	. .	32 22 31.4	+ 37.0
	23	Groom. 3940		9	54 24.07	+ 0.32	− 18.42	346 48 2.00	+ 4 18.50	− 13.1	22 54 5.97	− 4.63	37 58 28.6	+ 35.8
	24	B. A. C. 8115		9	12 44.11	+ 0.17	− 18.40	353 58 0.98	+ 4 48.35	− 5.9	23 12 25.88	− 4.69	45 9 4.6	+ 35.0
R.	25	α Ursæ Majoris		.	. . . .	. .	. .	336 25 54.50	+ 5 6.72	− 25.3	10 56 . .	. .	27 36 57.1	+ 3.4
	26	δ Leonis		.	. . . .	. .	. .	17 37 56.58	+ 5 12.74	+ 18.6	11 8 . .	. .	68 49 49.1	+ 1.6
	27	λ Draconis		.	. . . .	. .	. .	328 49 51.60	+ 5 37.33	− 35.0	11 24 . .	. .	20 1 15.1	+ 1.8
	28	γ Cephei, S. P.		.	. . . .	. .	. .	295 49 53.45	+ 4 21.95	− 1 58.8	23 34 . .	. .	346 58 37.8	− 0.6
	29	γ Ursæ Majoris (R)		.	. . . .	. .	. .	195 23 51.50	+ 3 10.72	+ 16.0	. . . .	. .	35 39 3.0	+ 1.3
	30	γ Ursæ Majoris		.	. . . .	. .	. .	344 27 59.68	+ 4 58.79	− 16.0	11 48 . .	. .	35 39 3.7	+ 2.0
	31	a^2 Can. Ven.		.	. . . .	. .	. .	359 51 55.20	+ 4 21.32	− 0.1	12 50 . .	. .	51 2 37.6	+ 1.0
	32	Polaris, S. P.		.	. . . .	. .	. .	307 31 54.75	+ 3 50.24	− 1 14.1	1 17 . .	. .	358 40 52.1	+ 2.6
14	33	Sun, S.		.	. . . .	. .	. .	47 27 56.82	+ 3 51.12	+ 1 2.3	13 19 . .	. .	98 39 11.4	. .
	34	Sun, N.		.	. . . .	. .	. .	46 55 54.15	+ 3 44.79	+ 1 1.1	13 19 . .	. .	98 7 1.2	. .
	35	η Ursæ Majoris (R)		.	. . . .	. .	. .	190 55 53.80	+ 4 29.73	+ 11.1	. . . .	. .	40 5 46.6	+ 0.6
	36	η Ursæ Majoris		.	. . . .	. .	. .	348 55 55.82	+ 3 42.98	− 11.1	13 43 . .	. .	40 5 48.9	+ 2.9
	37	α Draconis		.	. . . .	. .	. .	333 53 55.30	+ 3 43.66	− 27.8	14 1 . .	. .	25 3 32.4	+ 1.5
	38	α Bootis		.	. . . .	. .	. .	18 59 53.25	+ 5 29.88	+ 19.7	14 10 . .	. .	70 12 4.0	+ 2.6
	39	ε Bootis		.	. . . .	. .	. .	11 13 55.35	+ 5 5.11	+ 11.4	14 40 . .	. .	62 25 33.1	+ 2.7
	40	Mercury, C.		.	. . . .	. .	. .	58 5 58.25	+ 5 31.58	+ 1 32.0	14 51 . .	. .	109 19 23.0	. .
15, W.	41	γ^2 Ursæ Minoris		9	21 8.39	+ 1.39	− 17.94	326 33 56.25	+ 4 56.86	− 36.5	15 20 51.84	. .	17 44 37.8	+ 2.6
	42	α Cor. Bor.		9	29 58.26	+ 0.06	− **17.84**	11 41 54.75	+ 4 36.71	+ 11.6	15 29 40.39	. .	62 53 4.3	+ 0.7
	43	α Serpentis		9	38 44.61	− 0.11	− **17.95**	31 59 54.50	+ 5 11.29	+ 34.8	15 38 26.58	. .	83 12 1.8	+ 3.0
	44	τ Herculis		9	16 27.92	+ 0.33	− **17.89**	352 14 . .	. . . .	. .	16 16 10.37	. .	43 24 . .	. .
	45	α Scorpii		9	22 27.96	− 0.30	− **17.92**	64 57 57.12	+ 3 49.95	+ 1 58.5	16 22 9.79	. .	116 10 6.8	+ 1.8
	46	ζ Ophiuchi		9	30 57.19	− 0.21	− **17.88**	49 7 54.90	+ 4 12.56	+ 1 4.2	16 30 39.12	. .	100 19 32.9	+ 2.6
	47	η Herculis		9	39 7.72	+ 0.21	− **17.89**	359 39 53.50	+ 4 42.00	− 0.2	16 38 50.08	. .	50 50 56.5	+ 3.1
	48	κ Ophiuchi		9	52 22.29	− 0.08	− **17.78**	29 15 53.52	+ 3 30.02	+ 31.1	16 52 4.38	. .	80 26 15.8	+ 1.7
	49	B. A. C. 5731		9	56 3.39	+ 0.11	− 17.83	7 43 52.02	+ 3 22.31	+ 7.6	16 55 45.67	− 1.53	58 53 43.1	+ 10.2
	50	B. A. C. 5823		9	8 42.03	+ 0.92	− 17.81	332 57 56.05	+ 4 18.86	− 28.2	17 8 25.14	+ 1.78	24 8 7.9	+ 14.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
4	30.43	47.7	45.3
6	30.13	74.6	74.7
20	30.14	71.5	70.6
24	30.15	70.7	70.2
25	30.35	59.0	57.0
30	30.36	61.8	60.0
31	30.36	62.3	60.4
34	30.35	63.8	66.4
38	30.33	64.7	67.3
40	30.32	66.3	63.9
41	30.23	88.8	77.5
50	30.18	77.0	78.2

For summary of the constants of reduction see page 3.

4, 30. One bisection.
6, 18, 32. Three bisections.
15, 37, 40, 45. Four bisections.

ZENITH-POINT CORR.

	″
1 to 4	+ 30.68
5 to 24	+ 30.02
25 to 40	+ 31.28
41 to 50	+ 31.36

30. Barometer and thermometers read at $12^h\ 36^m$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
33	− 6.5	− 16 5.1	. .	− 16 11.6
34	− 6.5	+ 16 5.1	. .	+ 15 58.6
40	− 7.2		+ 0.4	− 6.8

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
October 15, W.	1	α Ophiuchi	9		29 44.84	− 0.06	**− 17.77**	26 9 44.72	+ 4 25.93	+ 27.3	17 29 26.99	. .	77 20 59.1	+ 1.3
	2	B.VI + 5°, 114	7		45 22.00	− 0.19	− 17.59	33 29 52.10	+ 4 14.85	+ 37.6	0 45 4.22	− 4.66	84 41 5.8	+29.0
	3	B. A. C. 262	3		53 23.53	+ 5.82	− 17.59	313 13 51.05	+ 3 20.57	− 1 0.1	0 53 10.76	−26.19	4 22 32.7	+25.2
	4	ε Piscium	9		57 8.51	− 0.18	**− 17.58**	31 33 48.58	+ 3 51.93	+ 34.9	0 56 50.74	. .	82 44 36.6	+ 2.0
	5	β Andromedæ	7		3 27.15	+ 0.04	**− 17.55**	3 49 45.15	+ 4 3.08	+ 3.9	1 3 9.60	. .	55 0 13.3	+ 2.7
	6	Polaris	8		16 31.55	+20.13	− 17.59	310 9 48.72	+ 4 9.04	− 1 6.9	1 16 34.09	. .	1 19 12.1	+ 2.2
	7	η Piscium	9		25 29.63	− 0.13	**− 17.63**	24 3 49.38	+ 5 3.29	+ 25.4	1 25 11.92	. .	75 15 39.3	+ 1.2
	8	B. A. C. 526	9		36 36.49	− 0.46	− 17.58	77 29 42.30	+ 3 35.28	+ 4 10.9	1 36 18.45	− 4.40	128 43 49.7	+24.8
	9	o Piscium	9		39 29.17	− 0.17	**− 17.59**	30 15 52.20	+ 3 18.36	+ 33.2	1 39 11.42	. .	81 26 5.0	+ 0.6
	10	B. A. C. 560	9		44 59.29	+ 0.26	− 17.58	348 37 51.50	+ 3 24.18	− 11.3	1 44 41.97	− 6.31	39 47 25.6	+23.1
	11	50 Cassiopeæ (R)			. . .	. .	. .	212 51 48.38	+ 4 56.37	+ 36.8	. . . .	. .	18 8 59.6	− 1.0
	12	50 Cassiopeæ	9		53 44.80	+ 1.10	− 17.58	326 59 49.32	+ 3 29.67	− 36.8	1 53 28.32	. .	18 9 3.4	+ 2.8
	13	Lalande 3987	6		6 25.59	+ 0.78	− 17.58	331 41 48.55	+ 4 36.04	− 30.5	2 6 8.79	− 8.77	22 52 15.3	+18.3
	14	B. VI + 66°, 193	5		6 35.33	+ 0.78	− 17.58	331 41 48.55	+ 4 54.49	− 30.5	2 6 18.53	− 8.77	22 52 33.7	+18.3
	15	Lalande 4280	9		13 55.92	+ 0.40	− 17.58	342 7 54.70	+ 3 57.60	− 18.2	2 13 38.74	− 7.10	33 17 55.3	+18.8
	16	Lalande 4309	9		14 53.23	+ 0.40	− 17.58	342 7 54.70	+ 3 45.45	− 18.2	2 14 36.05	− 7.11	33 17 43.2	+18.6
	17	Rümker 631	9		22 49.52	− 0.07	− 17.58	15 53 50.72	+ 3 0.16	+ 16.2	2 22 31.87	− 5.15	67 3 28.3	+22.0
	18	B. A. C. 812	9		33 33.18	− 0.40	− 17.58	69 29 50.15	+ 3 18.85	+ 2 31.0	2 33 15.20	− 4.23	120 42 1.2	+24.7
	19	ζ Arietis	4		8 26.45	− 0.10	**− 17.51**	18 11 49.58	+ 5 6.10	+ 18.8	3 8 8.78	. .	69 23 35.7	+ 1.8
	20	Weisse (2) 320	9		17 26.60	+ 0.01	− 17.57	5 43 49.85	+ 2 44.80	+ 5.8	3 17 9.04	− 5.55	56 53 1.6	+14.4
	21	B. VI + 33°, 656	9		21 15.63	+ 0.01	− 17.57	5 25 49.78	+ 3 53.34	+ 5.5	3 20 58.07	− 5.56	56 36 9.8	+13.9
	22	Weisse (2) 466	5		24 31.92	− 0.05	− 17.57	11 39 46.55	+ 3 36.02	+ 11.8	3 24 14.30	− 5.29	62 49 55.6	+14.7
	23	Weisse (2) 467	3		24 32.91	− 0.05	− 17.57	11 39 46.55	+ 3 35.95	+ 11.8	3 24 15.29	− 5.29	62 49 55.5	+14.7
	24	Lalande 6686	9		32 28.43	− 0.10	− 17.57	18 17 53.90	+ 3 37.83	+ 18.9	3 32 10.76	− 5.05	69 28 11.8	+15.1
	25	η Tauri	9		40 47.56	− 0.08	**− 17.63**	15 3 49.90	+ 5 12.58	+ 15.4	3 40 29.91	. .	66 15 39.1	+ 1.7
	26	ζ Persei	9		47 2.28	− 0.01	**− 17.60**	7 17 54.10	+ 3 42.86	+ 7.4	3 46 44.70	. .	58 28 5.6	+ 0.3
	27	γ^1 Eridani	9		52 50.69	− 0.32	**− 17.54**	52 39 47.95	+ 3 11.51	+ 1 14.6	3 52 32.80	. .	103 50 35.3	+ 1.4
	28	Weisse 1095	9		58 18.86	− 0.22	− 17.57	36 19 50.98	+ 2 41.44	+ 41.9	3 58 1.07	− 4.48	87 29 35.5	+16.0
	29	Weisse (2) 54	9		6 28.19	+ 0.06	− 17.57	1 11 48.78	+ 2 3.01	+ 1.2	4 6 10.68	− 5.72	52 20 14.2	+ 7.3
	30	β Geminorum	2		38 23.43	− 0.04	**− 17.38**	10 29 46.62	+ 5 13.20	+ 10.7	7 38 6.02	. .	61 41 31.7	+ 1.8
	31	λ Ursæ Min., S. P.	5		42 47.28	−25.63	− 17.36	307 47 56.18	+ 4 15.02	− 1 13.5	19 42 4.29	. .	358 57 18.9	+ 2.5
	32	15 Argus	9		2 49.06	− 0.38	**− 17.39**	62 45 52.75	+ 3 38.54	+ 1 51.0	8 2 31.33	. .	113 57 43.5	+ 1.0
	33	B. A. C. 2778	9		10 24.57	− 0.19	− 17.34	29 15 51.08	+ 4 21.78	+ 32.2	8 10 7.04	− 3.40	80 27 6.3	− 9.7
	34	η Cancri	9		26 10.50	− 0.11	**− 17.29**	17 57 51.55	+ 5 4.95	+ 18.6	8 25 53.06	. .	69 9 36.3	+ 0.9
	35	Moon II, S.	9		40 26.33	− 0.16	− 17.32	25 31 51.78	+ 4 46.95	+ 27.4	8 40 8.85	−63.02	76 43 27.3	. .
	36	ι Ursæ Majoris	9		51 24.28	+ 0.20	− 17.31	350 19 51.05	+ 3 57.64	− 9.7	8 51 7.17	. .	41 30 0.2	+ 2.3
	37	κ Cancri	9		1 38.66	− 0.18	**− 17.29**	27 39 53.80	+ 4 44.59	+ 30.1	9 1 21.18	. .	78 51 29.7	+ 2.6
16, S.	38	δ Leonis	9		8 5.52	− 0.06	**− 16.35**	17 37 58.25	+ 5 11.08	+ 18.1	11 7 49.08	. .	68 49 48.6	+ 0.5
	39	β Leonis	9		43 18.04	− 0.09	**− 16.39**	23 33 54.18	+ 5 25.39	+ 24.6	11 43 1.58	. .	74 46 5.4	+ 1.6
	40	γ Ursæ Majoris	9		47 51.50	+ 0.26	− 16.37	344 28 0.88	+ 4 58.01	− 15.5	11 47 35.39	. .	35 39 4.6	+ 1.9
	41	α^2 Can. Ven.	9		50 45.29	+ 0.08	**− 16.36**	359 50 . .	. .	. .	12 50 29.01	. .	51 3 . .	. .
	42	Polaris, S. P.	7		17 4.86	−17.19	− 16.35	307 31 51.82	+ 3 50.39	− 1 12.0	1 1 31.32	. .	358 40 51.2	+ 0.5
17	43	Sun I, N.	9		28 48.67	− 0.16	− 16.35	48 1 54.82	+ 4 0.30	+ 1 1.7	13 28 32.16	+65.38	99 13 18.0	. .
	44	Sun II, S.	9		30 59.44	− 0.16	− 16.35	48 33 49.00	+ 4 14.50	+ 1 2.9	13 30 42.93	65.39	99 45 27.6	. .
	45	β Bootis	9		57 44.84	+ 0.14	**− 16.36**	357 57 58.78	+ 4 11.49	− 1.9	14 57 28.65	. .	49 8 29.6	+ 2.9
	46	Mercury C.	9		3 6.36	− 0.17	− 16.33	59 7 59.95	+ 4 57.77	+ 1 31.7	15 2 49.86	+ 0.08	110 20 50.6	. .
	47	α Cor. Bor.	9		29 56.73	+ 0.02	**− 16.29**	11 41 52.82	+ 4 41.06	+ 11.4	15 29 40.42	. .	62 53 6.5	+ 2.9
	48	α Serpentis	9		38 42.94	− 0.08	**− 16.33**	31 59 54.85	+ 5 11.65	+ 34.4	15 38 26.54	. .	83 12 2.1	+ 3.1
	49	γ Aquilæ	9		40 55.64	− 0.12	**− 16.26**	28 29 54.10	+ 3 26.61	+ 30.3	19 40 39.33	. .	79 40 12.2	+ 1.9
	50	λ Ursæ Minoris	7		41 55.54	+19.44	− 16.19	309 54 . .	. .	. .	19 41 58.79	. .	1 3 . .	. .

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	30.19	68.8	67.3
19	30.19	67.4	65.7
29	30.19	67.1	64.8
31	30.23	64.7	62.4
37	30.24	65.2	63.8
38	30.27	71.7	70.6
44	30.23	77.5	79.3
46	30.20	82.8	84.5
48	30.17	83.2	83.6

For summary of the constants of reduction see page 3.

		ZENITH-POINT CORR. ″
11, 12.	One bisection.	1 + 31.36
35.	Three bisections.	2 to 29 + 31.88
6, 46.	Four bisections.	30 to 37 + 32.35
		38 to 48 + 31.01
		49 + 31.72

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
35	−23 14.7	− 14 48.0	. .	− 38 2.7
43	− 6.6	+ 16 4.8	. .	+ 15 58.2
44	− 6.7	− 16 4.8	. .	− 16 11.5
46	− 7.7	. .	+ 0.5	− 7.2

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
October 17, S.	1	Weisse (2) 1957	.	9	0 15.16	− 0.02	− 16.19	6 55 53.25	+ 4 15.08	+ 6.8	19 59 58.95	− 2.73	58 6 36.3	+29.6
	2	γ Cygni	.	9	18 16.36	+ 0.05	**− 16.17**	358 55 53.85	+ 4 40.82	− 1.0	20 18 0.21	. .	50 6 54.9	+ 2.1
	3	B. A. C. 7036	.	9	21 29.46	− 0.26	− 16.20	74 45 55.52	+ 3 27.11	+ 3 21.9	20 21 13.00	− 4.42	125 59 5.7	+ 9.8
	4	B. A. C. 7149 (R)	.	.	. . . .	. .	. .	156 31 51.82	+ 4 54.68	− 24.1	. . . .	. .	74 29 58.8	+27.8
	5	B. A. C. 7149	.	.	. . . .	. .	. .	23 17 55.52	+ 5 19.45	+ 24.1	20 34 . .	. .	74 30 0.3	+27.8
	6	B. A. C. 7226	.	9	44 56.18	− 0.25	− 16.21	72 23 53.80	+ 3 58.14	+ 2 54.3	20 44 39.72	− 4.43	123 37 7.4	+12.4
	7	Taylor 9666	.	9	50 8.66	− 0.28	− 16.21	83 15 53.90	+ 3 27.83	+ 7 21.1	20 49 52.17	− 4.83	134 33 4.0	+ 9.2
	8	σ^3 Ursæ Maj., S. P.	.	9	0 16.32	− 1.22	− 16.22	286 29 51.22	+ 3 19.41	− 3 5.2	8 59 58.88	. .	337 36 26.6	− 0.1
	9	ζ Cygni	.	8	8 11.91	− 0.04	**− 16.18**	9 3 52.10	+ 4 43.68	+ 9.0	21 7 55.65	. .	60 15 6.0	+ 0.9
	10	α Cephei	.	9	16 2.97	+ 0.38	− 16.22	336 43 54.98	+ 4 37.34	− 23.9	21 15 47.13	. .	27 54 29.6	+ 1.0
	11	B. A. C. 7477	7.0	9	25 3.99	+ 0.07	− 16.23	355 1 52.48	+ 2 15.03	− 4.8	21 24 47.83	− 3.36	46 10 23.9	+36.2
	12	B. A. C. 7489	.	9	27 46.92	+ 0.18	− 16.23	346 43 53.35	+ 3 41.29	− 13.1	21 27 30.87	− 3.27	37 53 42.7	+37.1
	13	α Gruis	.	9	1 5.49	− 0.30	− 16.24	86 7 55.52	+ 6 7.76	+11 41.2	22 0 48.95	. .	137 32 5.7	+ 8.5
	14	π Aquarii	.	9	19 32.61	− 0.17	**− 16.28**	38 1 53.45	+ 4 8.15	+ 43.8	22 19 16.19	. .	89 13 6.6	+ 1.7
	15	B. A. C. 7966	.	8	46 15.82	− 0.27	− 16.26	72 15 53.78	+ 4 54.33	+ 2 53.8	22 45 59.29	− 4.66	123 30 3.1	+20.4
	16	α Pegasi	.	9	59 10.68	− 0.12	**− 16.23**	24 15 52.88	+ 2 54.32	+ 25.3	22 58 54.30	. .	75 25 33.7	+ 0.8
	17	η Cancri	.	9	26 9.37	− 0.12	**− 16.09**	17 58 . .	. . .	. .	8 25 53.13	. .	69 10 . .	. .
	18	ε Hydræ	.	9	40 47.96	− 0.18	**− 16.13**	31 58 . .	. .	. .	8 40 31.66	. .	83 9 . .	. .
	19	ι Ursæ Majoris	.	9	51 23.38	+ 0.08	− 16.13	350 20 . .	. .	. .	8 51 7.33	. .	41 30 . .	. .
	20	σ^2 Ursæ Majoris	.	9	0 14.72	+ 0.49	− 16.14	331 14 . .	. .	. .	8 59 59.07	. .	22 24 . .	. .
	21	α Hydræ	.	9	22 3.59	− 0.22	**− 16.23**	46 58 . .	. .	. .	9 21 47.20	. .	98 9 . .	. .
	22	Moon II	.	9	13 54.62	− 0.16	− 16.24	33 42 . .	. .	. .	10 13 38.22	−61.69	84 22 . .	. .
	23	ρ Leonis	.	9	26 51.69	− 0.14	**− 16.20**	28 54 . .	. .	. .	10 26 35.29	. .	80 5 . .	. .
R.	24	δ Leonis	.	9	8 5.47	+ 0.03	**− 16.37**	17 37 53.50	+ 5 15.57	+ 17.7	11 7 49.10	. .	68 49 48.0	− 0.3
	25	λ Draconis	.	9	24 35.96	+ 0.73	− 16.40	328 49 52.60	+ 5 34.61	− 33.3	11 24 20.29	. .	20 1 15.1	+ 0.4
	26	β Leonis	.	9	43 17.98	+ 0.01	**− 16.42**	23 33 49.20	+ 5 29.50	+ 24.1	11 43 1.60	. .	74 46 4.0	0.0
	27	Venus II, S.	.	9	46 2.01	− 0.03	− 16.39	35 39 52.50	+ 4 54.15	+ 39.6	11 45 45.59	− 0.41	86 51 47.4	. .
	28	γ Corvi	.	6	9 59.96	− 0.08	**− 16.38**	55 42 . .	. .	. .	12 9 43.50	. .	106 53 . .	. .
	29	κ Draconis	.	9	28 38.48	+ 0.78	− 16.41	328 23 51.68	+ 4 7.64	− 33.7	12 28 22.85	. .	19 33 46.8	+ 0.8
	30	Polaris, S. P.	.	9	17 5.31	−15.55	− 16.35	307 31 53.20	+ 3 48.08	− 1 10.9	1 16 33.41	. .	358 40 51.6	+ 0.5
18	31	Sun I, S.	.	9	33 33.82	− 0.04	− 16.35	48 55 52.35	+ 4 2.61	+ 1 2.7	13 33 17.43	+65.40	100 7 18.9	. .
	32	Sun II, N.	.	9	35 44.63	− 0.04	− 16.35	48 23 49.48	+ 3 56.22	+ 1 1.5	13 35 28.24	−65.41	99 35 8.4	. .
	33	η Ursæ Majoris	.	9	43 7.63	+ 0.28	**− 16.38**	348 55 55.85	+ 3 42.18	− 10.6	13 42 51.56	. .	40 5 48.6	+ 1.2
	34	α Bootis	.	9	10 31.93	+ 0.05	**− 16.30**	18 59 48.98	+ 5 33.31	+ 18.8	14 10 15.65	. .	70 12 2.3	+ 0.1
W.	35	λ Draconis	.	8	24 36.02	+ 0.92	− 16.28	328 49 51.78	+ 5 38.79	− 35.2	11 24 20.66	. .	20 1 16.6	+ 1.5
	36	γ Cephei, S. P.	.	7	34 55.27	− 2.14	− 16.28	295 49 53.40	+ 4 24.93	− 1 59.7	23 34 36.85	. .	346 58 39.8	− 0.2
	37	β Leonis	.	9	43 18.03	− 0.09	**− 16.35**	23 33 51.90	+ 5 25.92	+ 25.6	11 43 1.66	. .	74 46 4.6	+ 0.5
	38	Venus II, S.	.	9	50 34.64	− 0.17	− 16.28	36 7 56.72	+ 4 50.81	+ 42.7	11 50 18.19	− 0.41	87 19 51.4	. .
	39	α^2 Can. Ven.	.	5	50 45.12	+ 0.13	**− 16.22**	359 51 52.75	+ 4 27.14	− 0.1	12 50 28.97	. .	51 2 41.0	+ 2.9
	40	Polaris, S. P.	.	5	17 9.20	−19.59	− 16.28	307 31 49.62	+ 3 55.66	− 1 15.2	1 16 33.33	. .	358 40 51.3	− 0.1
19	41	Sun I, S.	.	9	37 19.42	− 0.23	− 16.28	49 18 2.50	+ 3 29.86	+ 1 7.4	13 37 2.91	+65.61	100 29 1.0	. .
	42	Sun II, N.	.	9	39 30.64	− 0.23	− 16.28	48 46 0.38	+ 3 22.34	+ 1 6.1	13 39 14.13	−65.61	99 56 50.0	. .
E.	43	α Ursæ Maj. (R)	.	.	. . . .	. .	. .	203 25 54.40	+ 3 5.47	+ 25.2	. . . .	. .	27 36 56.1	+ 0.5
	44	α Ursæ Majoris	.	.	. . . .	. .	. .	336 26 0.55	+ 5 2.02	− 25.2	10 56 . .	. .	27 36 58.6	+ 3.0
	45	δ Leonis	.	9	8 4.43	− 0.02	**− 15.24**	17 37 58.18	+ 5 10.25	+ 18.5	11 7 49.11	. .	68 49 48.1	− 0.6
	46	δ Crateris	.	6	13 41.56	− 0.33	**− 15.33**	52 56 . .	. . .	. .	11 13 25.93	. .	104 8 . .	. .
	47	β Leonis	.	9	43 17.00	− 0.08	**− 15.31**	23 33 50.18	+ 5 28.33	+ 25.3	11 43 1.64	. .	74 46 5.0	+ 0.7
	48	Moon II	.	9	46 59.74	− 0.25	− 15.28	43 14 . .	. . .	. .	11 46 44.21	−62.51	93 46 . .	. .
	49	Venus II, S.	.	9	55 6.26	− 0.19	− 15.28	36 35 58.38	+ 4 59.98	+ 42.9	11 54 50.79	− 0.41	87 48 2.5	. .
	50	Polaris, S. P.	.	7	17 12.59	−25.86	− 15.25	307 32 . .	. . .	. .	1 16 31.48	. .	1 19 . .	. .

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.11	76.9	75.1
12	30.10	74.9	73.0
16	30.09	74.2	71.4
24	29.97	74.8	74.9
27	29.96	77.0	77.8
29	29.96	78.8	79.3
30	29.94	80.7	82.1
32	29.94	81.0	82.3
34	29.91	82.3	83.8
35	30.27	55.8	52.9
42	30.24	58.1	57.2
44	30.14	55.5	55.3

For summary of the constants of reduction see page 3.

2, 13, 30, 35. Three bisections.
7, 29, 33, 49. Four bisections.

ZENITH-POINT CORR.

1 to 16	+ 31.72
24 to 34	+ 30.54
35 to 42	+ 31.31
43 to 49	+ 31.75

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
27	− 3.7	− 6.2	. .	− 9.9
31	− 6.7	− 16 5.2	. .	− 16 11.9
32	− 6.7	+ 16 5.3	. .	+ 15 58.6
38	− 3.7	− 6.2	. .	− 9.9
41	− 6.7	− 16 5.5	. .	− 16 12.2
42	− 6.7	+ 16 5.5	. .	+ 15 58.8
49	− 3.8	− 6.1	. .	− 9.9

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
October 21, S.	1	α Serpentis		9	38 40.61	− 0.28	**− 13.82**	31 59 59.80	+ 5 4.60	+ 35.8	15 38 26.57	. .	83 12 1.4	+ 2.0
	2	Weisse (2) 1501		9	47 17.61	− 0.12	− 13.48	14 8 3.32	+ 3 39.71	+ 14.6	19 47 4.01	− 2.74	65 18 18.8	+26.8
	3	O. Arg. N. 19720		9	48 39.21	+ 0.25	− 13.48	352 8 1.42	+ 2 0.75	− 7.9	19 48 25.98	− 1.97	43 16 15.5	+31.3
	4	Lalande 38380		9	59 0.14	− 0.06	− 13.48	9 13 58.82	+ 4 14.07	+ 9.5	19 58 46.60	− 2.70	60 24 43.6	+29.0
	5	Weisse (2) 1957		9	0 12.31	− 0.02	− 13.48	6 55 59.65	+ 4 9.34	+ 7.1	19 59 58.81	− 2.64	58 6 37.3	+29.6
	6	α^2 Capricorni		9	11 44.79	− 0.52	**− 13.45**	51 43 59.62	+ 2 54.65	+ 1 13.4	20 11 30.80	. .	102 54 28.9	+ 0.7
	7	γ Cygni		9	18 13.39	+ 0.11	**− 13.36**	358 55 59.92	+ 4 33.41	− 1.0	20 18 0.04	. .	50 6 53.5	+ 0.9
	8	B. A. C. 7048.		9	22 2.90	+ 0.11	− 13.46	358 49 49.60	+ 2 35.07	− 1.1	20 21 49.55	− 2.62	49 58 44.8	+32.8
	9	B. A. C. 7226.		9	44 53.67	− 0.75	− 13.45	72 23 59.75	+ 3 45.40	+ 3 1.8	20 44 39.47	− 4.35	123 37 8.2	+12.1
	10	O. Arg. N. 21161[1]		4	45 22.88	+ 0.38	− 13.45	347 21 59.75	+ 3 9.70	− 13.0	20 45 9.81	− 2.53	38 31 17.6	+35.8
	11	61[1] Cygni		6	1 50.70	+ 0.08	**− 13.58**	0 39 57.22	+ 3 10.83	+ 0.7	21 1 37.34	. .	51 49 29.9	+ 0.7
	12	61[2] Cygni		5	1 52.07	+ 0.08	− 13.44	0 39 57.22	+ 3 20.16	+ 0.7	21 1 38.71	− 3.10	51 49 39.3	+34.8
	13	ζ Cygni		9	8 9.11	− 0.06	**− 13.43**	9 3 56.90	+ 4 37.39	+ 9.4	21 7 55.61	. .	60 15 4.9	0.0
	14	B. A. C. 7475		9	25 21.26	− 0.77	− 13.43	73 13 58.68	+ 4 18.51	+ 3 12.0	21 25 7.06	− 4.50	124 27 50.4	+14.7
	15	B. A. C. 7749 (R)			. . . .	. .	. .	198 38 2.45	+ 5 31.53	+ 19.8	. . . .	. .	32 22 27.4	+38.6
	16	B. A. C. 7749			. . . .	. .	. .	341 11 58.35	+ 4 29.87	− 19.8	22 7 . .	. .	32 22 29.6	+38.6
	17	B. A. C. 7923 (R)			. . . .	. .	. .	170 38 0.42	+ 5 2.00	− 9.6	. . . .	. .	60 23 28.4	+35.4
	18	B. A. C. 7923			. . . .	. .	. .	9 11 56.65	+ 5 2.45	+ 9.6	22 38 . .	. .	60 23 29.9	+35.4
	19	B. A. C. 7966		9	46 13.37	− 0.77	− 13.38	72 16 0.75	+ 4 36.84	+ 3 2.6	22 45 59.22	− 4.61	123 30 1.4	+19.8
	20	B. A. C. 7998		9	52 16.26	− 0.81	− 13.38	74 54 2.20	+ 5 5.14	+ 3 35.8	22 52 2.07	− 4.67	126 9 4.3	+19.4
	21	B. A. C. 8025		9	57 13.48	− 0.80	− 13.38	74 9 57.28	+ 3 30.03	+ 3 25.3	22 56 59.30	− 4.65	125 23 13.8	+19.9
	22	B. A. C. 8113		9	12 42.62	− 0.77	− 13.37	71 56 2.08	+ 5 4.02	+ 2 59.4	23 12 28.48	− 4.62	123 10 26.7	+21.2
	23	θ Piscium		9	22 14.02	− 0.36	**− 13.37**	33 6 1.02	+ 2 58.92	+ 38.5	23 22 0.30	. .	84 15 59.6	+ 1.7
	24	γ Cephei		9	34 47.77	+ 2.30	− 13.35	321 51 58.02	+ 3 48.33	− 46.1	23 34 36.72	. .	13 1 21.5	+ 2.3
	25	ω Piscium		9	53 30.43	− 0.35	**− 13.50**	32 35 59.92	+ 4 12.63	+ 37.8	23 53 16.74	. .	83 47 11.6	− 1.9
	26	B. A. C. 8348		9	56 8.22	− 0.83	− 13.34	76 38 6.78	+ 4 36.03	+ 4 4.7	23 55 54.05	− 4.67	127 53 8.7	+21.7
	27	B. A. C. 24		9	5 59.91	− 0.80	− 13.34	74 33 59.00	+ 3 42.60	+ 3 31.5	0 5 45.77	− 4.63	125 47 34.3	+22.4
	28	Miriam		9	19 31.01	− 0.38	− 13.33	34 3 59.60	+ 5 51.25	+ 40.0	0 19 17.30	. .	85 16 42.0	− 4.6
	29	β Ceti		9	37 55.38	− 0.61	**− 13.28**	57 26 2.18	+ 4 4.15	+ 1 32.5	0 37 41.45	. .	108 38 0.0	+ 1.7
	30	Anonymous		5	47 44.32	− 0.08	− 13.31	8 33 58.10	+ 5 45.10	+ 9.0	0 47 30.93	− 5.09	59 46 13.4	+30.6
	31	Danaë		7	47 50.26	− 0.08	− 13.31	8 33 58.10	+ 5 54.92	+ 9.1	0 47 36.87	. .	59 46 23.3	− 0.8
	32	Pandora		9	59 51.96	− 0.33	− 13.31	29 49 58.12	+ 5 17.60	+ 34.0	0 59 38.32	. .	81 2 10.9	− 3.2
	33	β Andromedæ		9	3 22.86	− 0.01	**− 13.18**	3 49 56.10	+ 3 48.98	+ 4.0	1 3 9.55	. .	55 0 10.3	+ 0.8
	34	Polaris		7	16 15.77	+26.98	− 13.30	310 9 56.50	+ 4 1.54	− 1 9.9	1 16 29.45	. .	1 19 9.3	+ 1.6
R.	35	β Leonis		9	43 14.91	− 0.17	**− 13.10**	23 33 59.40	+ 5 16.87	+ 25.4	11 43 1.66	. .	74 46 2.9	− 1.8
	36	γ Ursæ Majoris		6	47 48.07	+ 0.50	− 13.08	344 28 3.58	+ 4 55.44	− 16.0	11 47 35.49	. .	35 39 4.2	− 0.2
	37	Venus II, S		9	4 9.28	− 0.30	− 13.06	37 34 0.45	+ 3 38.05	+ 44.5	12 3 55.92	− 0.40	88 44 44.2	. .
	38	κ Draconis		9	28 34.72	+ 1.39	− 13.04	328 24 0.42	+ 4 0.09	− 35.3	12 28 23.07	. .	19 33 46.4	− 1.0
	39	α^2 Can. Ven.		5	50 41.90	+ 0.16	**− 13.01**	359 51 58.68	+ 4 19.90	− 0.1	12 50 29.03	. .	51 2 39.7	+ 0.7
	40	Polaris, S. R		11	17 13.18	−28.62	− 13.01	307 31 56.20	+ 3 47.55	− 1 14.1	1 16 31.55	. .	358 40 50.9	− 1.5
22	41	Sun I, S.		9	48 37.73	− 0.39	− 12.98	50 21 54.68	+ 3 43.87	+ 1 8.8	13 48 24.36	+65.85	101 33 8.6	. .
	42	Sun II, N.		9	50 49.43	− 0.39	− 12.98	49 49 53.05	+ 3 34.71	+ 1 7.5	13 50 36.06	− 65.85	101 0 56.5	. .
	43	α Draconis		9	1 20.59	+ 1.01	− 12.97	333 53 59.98	+ 3 40.64	− 27.8	14 1 8.63	. .	25 3 34.0	+ 0.2
	44	α Bootis		9	10 28.69	− 0.10	**− 12.90**	18 59 53.25	+ 5 27.74	+ 19.7	14 10 15.62	. .	70 12 1.9	− 1.1
	45	β Ursæ Min. (R)			. . . .	. .	. .	215 39 50.95	+ 4 12.72	+ 40.8	. . . .	. .	15 21 36.7	− 2.0
	46	β Ursæ Minoris			. . . .	. .	. .	324 11 55.28	+ 4 6.16	− 40.8	14 51 . .	. .	15 21 41.8	+ 3.1
	47	γ^2 Ursæ Minoris		9	21 2.57	+ 1.66	− 12.92	326 33 59.15	+ 4 55.13	− 37.2	15 20 51.31	. .	17 44 38.3	+ 0.9
	48	Cor. Bor.		9	29 53.27	0.00	**− 12.85**	11 41 55.85	+ 4 36.87	+ 11.8	15 29 40.36	. .	62 53 5.7	+ 1.0
	49	τ Herculis		9	16 22.82	+ 0.34	**− 12.93**	352 13 57.62	+ 3 54.97	− 7.7	10 16 10.29	. .	43 24 6.1	+ 1.3
	50	α Scorpii		9	22 23.14	− 0.52	**− 12.94**	60 58 2.55	+ 3 39.81	+ 2 0.9	16 22 9.75	. .	116 10 4.5	0.0

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	. .	. .	65.7
2	30.28	60.8	58.9
21	30.30	55.5	50.0
29	30.30	52.8	47.9
34	30.30	51.8	47.0
36	30.33	57.3	58.6
38	30.33	59.8	61.7
40	30.33	62.3	64.8
42	30.33	63.6	66.9
47	30.28	68.2	69.8
50	30.27	68.4	69.4

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

		″
34, 36.	Three bisections.	1 + 28.87
37, 43, 44, 47, 48, 49, 50.	Four bisections.	2 to 34 + 30.46
40.	Five bisection.	35 to 40 + 29.12

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
37	− 3.8	− 6.1	. .	− 9.9
41	− 6.9	− 16 6.0	. .	− 16 12.9
42	− 6.8	+ 16 6.0	. .	+ 15 59.2

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	m. h. s.	s.	° ′ ″	″
October 22, R.	1	λ Ursæ Minoris	.	6	41 33.27	+33.62	— 12.72	309 53 59.20	+ 3 35.49	— 1 8.4	19 41 54.17	. .	1 2 47.5	+ 4.0
	2	Lalande 38415	.	9	0 13.94	— 0.18	— 12.71	23 39 56.32	+ 3 13.24	+ 25.3	20 0 1.05	— 3.05	74 49 56.1	+25.3
	3	a^2 Capricorni	.	9	11 44.02	— 0.44	**— 12.79**	51 43 59.92	— 2 57.34	+ 1 13.0	20 11 30.88	. .	102 54 31.5	+ 3.2
	4	γ Cygni	.	9	18 12.54	+ 0.13	**— 12.56**	358 56 0.28	+ 4 34.76	— 1.0	20 17 59.97	. .	50 6 55.2	+ 2.6
	5	B. A. C. 7051	8.5	9	21 43.13	+ 0.74	— 12.69	336 56 1.90	+ 4 34.59	— 24.4	20 21 31.18	— 1.51	28 6 33.3	+35.3
	6	ε Delphini	.	8	27 47.91	— 0.23	**— 12.67**	27 53 56.60	+ 4 49.50	+ 30.6	20 27 34.99	. .	79 5 37.9	+ 3.2
	7	O. Arg. N. 21126	4.5	8	44 9.27	+ 0.27	— 12.68	351 28 2.48	+ 1 35.59	— 8.6	20 43 56.86	— 2.62	42 35 50.7	+35.4
	8	O. Arg. N. 21161[1]	6.2	5	45 21.99	+ 0.36	— 12.68	347 21 55.18	+ 3 15.06	— 12.9	20 45 9.67	— 2.50	38 31 18.5	+35.9
	9	O. Arg. N. 21161[2]	8.0	5	45 22.33	+ 0.36	— 12.68	347 21 55.18	+ 3 13.66	— 12.9	20 45 10.01	— 2.50	38 31 17.1	+35.9
	10	σ^2 Ursæ Maj., S. P.	.	6	0 13.63	— 1.96	— 12.67	286 29 56.15	+ 3 23.12	— 3 11.9	8 59 59.00	. .	337 36 28.6	+ 2.9
	11	61[1] Cygni	.	9	1 49.81	+ 0.09	**— 12.73**	0 39 55.05	+ 3 14.22	+ 0.7	21 1 37.23	. .	51 49 31.2	+ 2.1
	12	1 Pegasi (R)	.	.	. . .	. .	. .	160 19 57.45	+ 5 0.93	— 20.6	. . . .	. .	70 41 43.4	+ 0.4
	13	1 Pegasi	.	.	. . .	. .	. .	19 29 55.30	+ 5 7.81	+ 20.6	21 17 . .	. .	70 41 44.9	+ 1.9
	14	B. A. C. 7475	6.7	9	25 20.44	— 0.66	— 12.65	73 13 57.30	+ 4 21.86	+ 3 10.5	21 25 7.13	— 4.48	124 27 50.9	+14.6
	15	B. A. C. 7489	6.3	9	27 43.04	+ 0.38	— 12.65	346 43 58.00	+ 3 36.78	— 13.6	21 27 30.77	— 3.13	37 53 42.4	+37.8
	16	θ Aquarii (R)	.	.	. . .	. .	. .	132 39 56.50	+ 5 21.78	— 1 2.7	. . . .	. .	98 22 5.6	+ 0.1
	17	θ Aquarii	.	.	. . .	. .	. .	47 9 51.42	+ 4 52.53	+ 1 2.7	22 11 . .	. .	98 22 7.9	+ 2.4
	18	B. A. C. 7966	.	9	46 12.41	— 0.66	— 12.59	72 15 59.75	+ 4 42.10	+ 3 0.8	22 45 59.16	— 4.60	123 30 3.8	+19.7
	19	Groom. 3940	6.7	9	54 18.12	+ 0.36	— 12.59	346 48 0.15	+ 4 18.65	— 13.6	22 54 5.89	— 4.48	37 58 26.4	+37.8
	20	B. A. C. 8115	6.2	9	12 38.19	+ 0.20	— 12.58	353 58 0.38	+ 4 48.08	— 6.1	23 12 25.81	— 4.59	45 9 3.6	+36.8
	21	B. A. C. 8348	.	9	56 7.18	— 0.72	— 12.55	76 38 1.35	+ 4 42.51	+ 4 1.8	23 55 53.91	— 4.66	127 53 6.9	+21.5
	22	B. A. C. 8376	7.0	9	1 38.58	— 0.76	— 12.55	79 49 54.82	+ 6 40.53	+ 5 17.5	0 1 25.27	— 4.70	131 8 14.1	+21.0
	23	B. A. C. 22	6.5	7	5 35.15	— 0.76	— 12.54	79 49 54.82	+ 0 19.12	+ 5 14.3	0 5 21.85	— 4.69	131 1 49.4	+21.1
	24	B. A. C. 62	.	9	13 39.44	— 0.44	— 12.54	48 18 0.25	+ 3 9.16	+ 1 5.5	0 13 26.46	— 4.51	99 28 36.1	+27.5
	25	Miriam	12.0	9	19 7.93	— 0.31	— 12.53	34 9 55.15	+ 6 56.20	+ 39.7	0 18 55.09	. .	85 23 52.3	— 4.6
	26	B. A. C. 118	5.7	9	24 57.01	— 0.75	— 12.53	78 53 57.85	+ 4 57.44	+ 4 50.9	0 24 43.73	— 4.64	130 10 7.4	+21.8
	27	B. A. C. 166	.	9	33 15.60	— 0.05	— 12.52	8 35 57.08	+ 4 28.02	+ 8.9	0 33 3.03	— 5.00	59 46 55.2	+31.7
	28	η^1 Cassiopeæ	.	6	42 13.12	+ 0.50	— 12.52	341 38 1.45	+ 4 22.62	— 19.3	0 42 1.10	— 6.31	32 48 26.0	+31.2
	29	η^2 Cassiopeæ	.	5	42 13.31	+ 0.50	— 12.52	341 38 1.45	+ 4 29.90	— 19.3	0 42 1.29	— 6.31	32 48 33.3	+31.2
	30	Danaë	11.0	8	46 50.97	— 0.05	— 12.52	8 37 59.12	+ 4 39.27	+ 8.9	0 46 38.40	. .	59 49 8.5	— 0.8
	31	Pandora	.	.	. . .	. .	. .	29 51 57.42	+ 5 1.38	+ 33.6	0 59 . .	. .	81 3 53.6	— 3.2
	32	Polaris	.	8	16 19.69	+25.04	— 12.50	310 9 54.02	+ 4 2.41	— 1 8.9	1 16 32.23	. .	1 19 8.7	+ 1.3
	33	η Piscium	.	9	25 24.62	— 0.23	**— 12.48**	24 3 58.42	+ 4 54.55	+ 26.2	1 25 11.90	. .	75 15 40.4	+ 2.7
	34	B. A. C. 526	.	9	36 31.58	— 0.75	— 12.48	77 29 57.02	+ 3 13.58	+ 4 18.7	1 36 18.35	— 4.43	128 43 50.5	+23.1
	35	ο Piscium	.	9	39 24.26	— 0.29	**— 12.51**	30 15 59.38	+ 3 10.22	+ 34.2	1 39 11.49	. .	81 26 5.0	+ 0.8
	36	Anonymous	13.5	9	50 3.21	— 0.25	— 12.48	25 59 55.82	+ 4 7.45	+ 28.6	1 49 50.48	— 4.92	77 10 53.1	+25.8
	37	α Arietis	.	8	0 45.81	— 0.14	**— 12.44**	15 55 58.55	+ 3 4.57	+ 16.7	2 0 33.21	. .	67 5 41.0	+ 2.0
	38	Anonymous	12.5	9	20 51.74	— 0.34	— 12.45	36 7 52.58	+ 5 12.25	+ 42.8	2 20 38.95	— 4.75	87 20 8.8	+23.7
	39	Saturn I, S.	.	5	32 44.99	— 0.26	— 12.43	26 38 0.10	+ 4 39.66	+ 29.4	2 32 32.30	+ 0.72	77 49 30.4	. .
	40	Saturn II, N.	.	5	32 46.44	— 0.26	— 12.43	26 38 0.10	+ 4 21.47	+ 29.4	2 32 33.75	— 0.73	77 49 12.2	. .
	41	Vesta	6.7	9	44 47.08	— 0.32	— 12.43	34 9 55.88	+ 4 41.74	+ 39.8	2 44 34.33	. .	85 21 38.6	— 3.2
	42	Freia	14	9	50 1.35	— 0.22	— 12.43	22 53 56.42	+ 5 52.40	+ 24.8	2 49 48.70	. .	74 6 34.8	— 1.7
	43	Neptune I, C.	.	8	54 53.12	— 0.23	— 12.43	24 3 55.40	+ 3 36.68	+ 26.2	2 54 40.46	+ 0.15	75 14 19.5	. .
	44	Neptune II	.	3	54 53.43	— 0.23	— 12.43	. . . .	. .	. .	2 54 40.77	— 0.16	. . . .	. .
	45	48 Cephei (R)	.	.	. . .	. .	. .	218 19 51.92	+ 3 34.52	+ 46.3	. . . .	. .	12 42 8.5	+ 1.0
	46	48 Cephei	.	.	. . .	. .	. .	321 31 54.55	+ 4 40.68	— 46.3	3 5 . .	. .	12 42 10.1	+ 2.6
	47	11 Ursæ Min., S. P.	.	8	17 22.27	— 2.27	— 12.41	291 7 58.12	+ 3 28.20	— 2 29.9	15 17 7.59	+ 4.48	342 15 17.6	+ 5.0
	48	Jupiter I, S.	.	6	27 26.67	— 0.20	— 12.40	21 15 51.82	+ 3 32.95	+ 22.9	3 27 14.07	+ 1.70	72 26 8.9	. .
	49	Jupiter II, N.	.	5	27 30.08	— 0.20	— 12.40	21 15 51.82	+ 4 18.74	+ 22.9	3 27 17.48	— 1.71	72 26 54.7	. .
24, S.	50	Polaris, S. P.	.	7	17 8.66	—25.17	— 11.17	307 31 54.92	+ 3 50.36	— 1 12.6	1 16 32.32	. .	358 40 53.9	+ 0.3

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.24	63.6	61.1
6	30.24	61.6	58.8
12	30.22	60.4	57.3
15	30.21	59.4	56.2
19	30.22	57.7	54.0
21	30.22	56.7	53.5
31	30.22	55.7	52.6
32	30.22	55.5	52.3
43	30.20	53.8	51.2
49	30.20	53.3	50.9
50	29.60	62.1	63.0

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

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8, 47. One bisection. 1 to 49 + 31.00

5, 10, 50. Three bisections. 50 + 29.77

1, 4, 19, 20, 33, 41, 43. Four bisections.

32. Five bisections.

1. Barometer and thermometers read at $19^h\ 31^m$.

15. Barometer and thermometers read at $21^h\ 40^m$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
39	— 0.5	— 9.1	. .	— 9.6
40	— 0.5	+ 9.1	. .	+ 8.6
43	— 0.1	. .	. .	— 0.1
48	— 0.8	+ 22.9	. .	+ 22.1
49	— 0.8	— 22.9	. .	— 23.7

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
October 25, S.	1	Sun I, N.		9	0 3.44	− 0.43	− 11.13	50 51 56.10	+ 4 7.61	+ 1 8.7	13 59 51.88	+66.17	102 3 33.6	. .
	2	Sun II, S.		9	2 15.78	− 0.43	− 11.13	51 23 54.62	+ 4 22.60	+ 1 10.0	14 2 4.22	−66.17	102 35 48.4	. .
	3	ε Bootis		9	40 0.02	− 0.08	**− 11.07**	11 13 58.02	+ 5 1.49	+ 11.2	14 39 48.85	. .	62 25 31.9	− 1.0
	4	β Bootis		9	57 39.58	+ 0.10	**− 11.10**	357 58 . .	. . .	. .	14 57 28.61	. .	49 8 . .	. .
	5	Mercury I, C.		9	24 16.09	− 0.49	− 11.04	60 31 55.85	+ 3 20.62	+ 1 38.4	15 24 4.56	+ 0.29	111 43 16.1	. .
	6	α Cor. Bor.		9	29 51.49	− 0.08	**− 1.01**	11 41 55.02	+ 4 37.94	+ 11.6	15 29 40.38	. .	62 53 5.8	+ 0.5
	7	α Serpentis		9	38 37.79	− 0.27	**− 11.03**	31 59 57.20	+ 5 8.10	+ 34.9	15 38 26.50	. .	83 12 1.4	+ 1.6
	8	ε Serpentis		9	45 6.54	− 0.28	**− 11.04**	33 58 4.00	+ 4 48.65	+ 37.6	15 44 55.24	. .	85 9 51.4	+ 1.8
	9	δ Scorpii		9	53 32.16	− 0.50	**− 11.02**	61 3 57.05	+ 5 2.49	+ 1 40.7	15 53 20.65	. .	112 17 1.4	+ 1.3
	10	β^1 Scorpii		9	58 45.29	− 0.48	**− 10.97**	58 15 59.32	+ 4 57.77	+ 1 30.1	15 58 33.81	. .	109 28 48.4	+ 0.7
	11	δ Ophiuchi		9	8 20.33	− 0.35	**− 10.99**	42 11 56.02	+ 4 7.63	+ 50.6	16 8 8.99	. .	93 23 15.4	+ 1.2
	12	Moon I		9	13 55.20	− 0.50	− 10.99	61 15 . .	. . .	. .	16 13 43.71	+71.00	111 36 . .	. .
	13	Lalande 38380	7	8	58 57.53	− 0.12	− 10.92	9 13 56.45	+ 4 17.52	+ 9.2	19 58 46.49	− 2.62	60 24 44.4	+28.9
	14	Weisse (2) 1957	6	9	0 9.76	− 0.09	− 10.92	6 55 58.45	+ 4 9.93	+ 6.9	19 59 58.75	− 2.56	58 6 36.5	+29.5
	15	α^2 Capricorni		9	11 42.18	− 0.47	**− 10.96**	51 43 58.70	+ 2 58.16	+ 1 11.6	20 11 30.79	. .	102 54 29.7	+ 1.3
	16	B. A. C. 7048		9	22 0.28	+ 0.02	− 10.92	358 49 35.18	+ 2 48.85	− 1.1	20 21 49.38	− 2.52	49 58 44.1	+32.9
	17	O. Arg. N. 21161[1]	8	6	45 20.28	+ 0.23	− 10.92	347 21 55.08	+ 3 12.74	− 12.6	20 45 9.59	− 2.40	38 31 16.4	+36.1
	18	O. Arg. N. 21161[2]	9.5	5	45 20.61	+ 0.23	− 10.92	347 21 55.08	+ 3 12.65	− 12.6	20 45 9.92	− 2.40	38 31 16.3	+36.1
	19	61[1] Cygni		9	1 48.03	− 0.01	**− 10.91**	0 39 58.08	+ 3 10.13	+ 0.7	21 1 37.10	. .	51 49 30.1	+ 1.1
	20	ζ Cygni		9	8 6.52	− 0.11	**− 10.87**	9 3 55.02	+ 4 39.68	+ 9.1	21 7 55.49	. .	60 15 5.0	+ 0.3
	21	B. A. C. 7475		9	25 18.53	− 0.66	− 10.92	73 13 57.55	+ 4 24.80	+ 3 6.9	21 25 6.95	− 4.42	124 27 50.5	+14.4
	22	ξ Aquarii		9	31 40.34	− 0.45	**− 10.93**	47 11 55.92	+ 3 32.94	+ 1 1.4	21 31 28.97	. .	98 22 51.5	+ 1.3
	23	B. A. C. 7643 (R)			. . . .	. .	. .	197 3 55.95	+ 5 39.84	+ 17.6	. . . .	. .	33 56 27.8	+39.0
	24	B. A. C. 7643			. . . .	. .	. .	342 46 0.92	+ 4 26.18	− 17.6	21 51 . .	. .	33 56 30.7	+39.0
	25	α Gruis		9	1 0.12	− 0.81	− 10.92	86 9 55.02	+ 3 51.30	+11 56.7	22 0 48.39	. .	137 32 4.2	+ 5.9
	26	B. A. C. 8352		9	56 29.93	− 0.62	− 10.92	69 9 55.40	+ 3 52.29	+ 2 29.3	23 56 18.39	− 4.55	120 22 38.2	+22.6
	27	B. A. C. 8376		9	1 36.84	− 0.72	− 10.92	79 49 58.18	+ 6 44.09	+ 5 10.5	0 1 25.20	− 4.67	131 8 14.0	+20.3
	28	B. A. C. 22		9	5 33.26	− 0.72	− 10.92	79 49 58.18	+ 0 20.59	+ 5 7.5	0 5 21.62	− 4.67	131 1 47.5	+20.5
	29	Danaë		9	44 1.02	− 0.13	− 10.92	8 45 58.25	+ 6 2.44	+ 8.9	0 43 49.97	. .	59 58 30.8	− 0.8
	30	Pandora		9	56 28.94	− 0.33	− 10.92	29 55 59.40	+ 5 51.12	+ 33.0	0 56 17.69	. .	81 8 44.7	− 3.1
	31	Polaris		10	16 21.33	+22.05	− 10.92	310 9 55.90	+ 3 57.99	− 1 7.4	1 16 32.46	. .	1 19 7.7	+ 1.5
	32	θ^1 Ceti		9	18 20.52	− 0.46	**− 10.96**	47 36 . .	. . .	. .	1 18 9.14	. .	98 47 . .	. .
	33	ο Piscium		9	39 22.71	− 0.33	**− 10.90**	30 15 59.70	+ 3 10.04	+ 33.4	1 39 11.46	. .	81 26 4.3	+ 0.1
	34	β Arietis		9	48 20.29	− 0.23	**− 10.89**	18 35 59.82	+ 3 21.17	+ 19.3	1 48 9.14	. .	69 46 1.5	0.0
26, R.	35	B. A. C. 6737		3	33 41.01	+ 0.61	− 10.65	335 39 53.52	+ 3 30.67	− 25.7	19 33 30.97	− 0.25	26 49 19.7	+31.3
	36	Lalande 37527		9	38 22.99	− 0.06	− 10.65	6 39 52.90	+ 4 29.07	+ 6.7	19 38 12.28	− 2.34	57 50 49.9	+27.6
	37	λ Ursæ Minoris		5	41 35.86	+28.04	− 10.65	309 53 51.98	+ 3 40.61	− 1 8.1	19 41 53.25	. .	1 2 45.7	+ 2.4
	38	τ Aquilæ		9	58 33.66	− 0.29	**− 10.58**	31 51 54.05	+ 4 12.44	+ 35.7	19 58 22.72	. .	83 3 3.4	+ 0.9
	39	B. A. C. 6922		9	3 38.27	− 0.61	− 10.65	75 9 55.90	+ 3 57.25	+ 3 33.7	20 3 27.11	− 4.18	126 23 48.1	+ 8.0
	40	α^2 Capricorni		9	11 41.91	− 0.44	**− 10.74**	51 43 54.85	+ 2 59.69	+ 1 12.7	20 11 30.82	. .	102 54 28.4	0.0
	41	γ Cygni		9	18 10.57	+ 0.03	**− 10.59**	358 55 56.80	+ 4 38.35	− 1.0	20 17 59.95	. .	50 6 55.4	+ 2.8
	42	π Capricorni		9	20 45.48	− 0.48	**− 10.65**	57 23 55.80	+ 4 2.34	+ 1 29.8	20 20 34.35	. .	108 35 49.1	+ 1.9
	43	ε Delphini		9	27 45.90	− 0.27	**− 10.69**	27 53 54.38	+ 4 50.36	+ 30.6	20 27 34.98	. .	79 5 36.5	+ 1.7
	44	α Cygni (R)			. . . .	. .	. .	185 53 51.18	+ 4 18.16	+ 6.0	. . . .	. .	45 8 5.9	+ 0.8
	45	α Cygni			. . . .	. .	. .	353 58 1.18	+ 3 51.65	− 6.0	20 37 . .	. .	45 8 8.0	+ 2.9
	46	σ^2 Urs. Maj., S. P		9	0 11.82	− 1.70	− 10.65	286 29 52.50	+ 3 25.70	− 3 11.8	8 59 59.47	. .	337 36 27.6	+ 2.5
	47	1 Pegasi (R)			. . . .	. .	. .	160 19 53.95	+ 5 4.83	− 20.6	. . . .	. .	70 41 43.0	+ 0.1
	48	1 Pegasi			. . . .	. .	. .	19 29 52.95	+ 5 10.80	+ 20.6	21 17 . .	. .	70 41 45.6	+ 2.7
	49	Weisse 557	6.0	9	25 38.87	− 0.26	− 10.65	27 11 54.92	+ 3 50.88	+ 29.9	21 25 27.96	− 3.63	78 22 36.9	+29.7
	50	Bradley 3011[1]		3	41 57.10	− 0.39	− 10.65	43 38 0.70	+ 5 2.32	+ 55.6	22 41 46.06	− 4.20	94 50 19.8	+27.5

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	29.59	63.6	64.6
6	29.59	65.2	66.0
12	. .	. .	65.8
15	29.67	61.9	59.9
25	29.73	59.5	57.2
34	29.75	57.2	55.2
37	29.97	60.4	59.2
45	29.97	57.3	54.6
49	29.99	56.5	52.6

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

		″
27.	One bisection.	1 to 11 + 29.77
5, 31.	Three bisections.	13 to 34 + 31.90
25, 37, 39, 40, 46, 49.	Four bisections.	35 to 50 + 32.99

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
1	− 6.9	+ 16 7.4	. .	+ 16 0.5
2	− 7.0	− 16 7.4	. .	− 16 14.4
5	− 9.2	. . .	+ 0.7	− 8.5

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
ctober														
), R.	1	Bradley 3011[2]	.	5	41 57.30	− 0.39	− 10.65	43 38 0.70	+ 5 1.07	+ 55.6	22 41 46.26	− 4.20	94 50 18.6	+27.5
	2	Piazzi XXII, 220	.	3	41 59.44	− 0.39	− 10.65	43 38 0.70	+ 5 37.73	+ 55.6	22 41 48.40	− 4.20	94 50 55.2	+27.5
	3	O. Arg. N. 24991	5.3	9	55 19.26	+ 0.31	− 10.65	342 31 54.70	+ 2 59.26	− 18.3	22 55 8.92	− 4.50	33 40 56.9	+38.8
	4	B. A. C. 8113	.	9	12 39.60	− 0.62	− 10.65	71 55 58.22	+ 5 10.30	+ 2 57.8	23 12 28.33	− 4.56	123 10 27.5	+20.4
	5	θ Piscium	.	9	22 11.33	− 0.33	**− 10.75**	33 5 56.95	+ 3 2.67	+ 38.1	23 22 0.35	. .	84 15 58.9	+ 0.9
	6	ι Piscium.	.	9	34 5.19	− 0.33	**− 10.64**	33 49 55.28	+ 3 42.00	+ 39.2	23 33 54.21	. .	85 0 37.7	+ 0.9
	7	γ Cephei	.	3	35 45.31	+ 1.69	− 10.65	321 51 54.52	+ 3 48.76	− 45.7	23 35 36.35	. .	13 1 18.8	+ 1.1
	8	Groom. 4163 (R)	.	.	. . .	. .	. .	214 47 58.10	+ 3 12.60	+ 40.7	. . . .	. .	16 14 29.8	− 0.9
	9	Groom. 4163	.	.	. . .	. .	. .	325 5 56.62	+ 2 55.65	− 40.7	23 49 . .	. .	16 14 32.8	+ 2.1
	10	B. A. C. 8352	.	6	56 29.55	− 0.60	− 10.65	69 9 50.80	+ 3 53.94	+ 2 33.0	23 56 18.30	− 4.54	120 22 38.9	+22.5
	11	B. A. C. 8375	.	9	1 5.93	− 0.68	− 10.65	78 17 56.00	+ 3 12.31	+ 4 36.4	0 0 54.60	− 4.64	129 32 5.9	+20.5
	12	B. A. C. 2	.	2	2 16.57	− 0.63	− 10.65	72 58 1.70	+ 3 37.47	+ 3 9.3	0 2 5.29	− 4.58	124 11 9.7	+21.7
	13	Weisse (2) 100	.	9	6 7.80	− 0.19	− 10.65	15 59 53.75	+ 4 23.31	+ 16.9	0 5 56.96	− 4.69	67 10 55.2	+32.9
	14	B. A. C. 79	.	9	18 7.36	+ 0.20	− 10.64	347 27 59.68	+ 3 42.72	− 12.9	0 17 56.92	− 5.58	38 37 50.7	+34.3
	15	B. A. C. 118	.	9	24 55.07	− 0.70	− 10.64	78 53 55.82	+ 4 57.08	+ 4 52.2	0 24 43.73	− 4.61	130 10 6.3	+21.0
	16	α Cassiopeæ	.	9	34 2.06	+ 0.28	− 10.63	342 55 58.00	+ 4 23.42	− 17.9	0 33 51.71	. .	34 6 24.7	+ 1.7
	17	Lalande 1251, 2.	8.0	9	40 52.82	− 0.41	− 10.63	43 51 55.18	+ 4 31.37	+ 56.4	0 40 41.78	− 4.57	95 3 44.2	+27.6
	18	Danaë	.	3	43 6.66	− 0.13	− 10.63	8 49 53.35	+ 5 39.29	+ 9.2	0 42 55.90	. .	60 2 3.0	− 0.8
	19	Pandora	9.8	9	55 40.94	− 0.31	− 10.62	29 57 59.18	+ 5 24.63	+ 33.9	0 55 30.01	. .	81 10 18.9	− 3.1
	20	β Andromedæ	.	9	3 20.30	− 0.07	**− 10.55**	3 49 51.50	+ 3 54.22	+ 4.0	1 3 9.61	. .	55 0 10.9	+ 2.3
	21	Polaris	.	8	16 20.81	+20.49	− 10.61	310 9 49.65	+ 4 5 57	− 1 9.3	1 16 30.69	. .	1 19 7.1	+ 1.3
	22	B. A. C. 454	7.5	9	25 41.16	− 0.30	− 10.61	28 31 56.62	+ 4 14.00	+ 32.0	1 25 30.25	− 4.84	79 43 3.8	+27.5
	23	Lacaille 459	7	9	29 38.54	− 0.66	− 10.61	74 43 55.48	+ 3 2.79	+ 3 32.6	1 29 27.27	− 4.45	125 56 52.1	+22.5
	24	B. A. C. 526	.	9	36 29.69	− 0.69	− 10.61	77 29 54.75	+ 3 14.27	+ 4 19.9	1 36 18.39	− 4.44	128 43 50.1	+22.1
	25	Lalande 3837	.	9	58 39.28	− 0.46	− 10.60	51 13 54.92	+ 4 1.06	+ 1 13.2	1 58 28.22	− 4.56	102 25 30.4	+24.3
	26	α Arietis	.	9	0 44.01	− 0.20	**− 10.55**	15 55 56.88	+ 3 5.10	+ 16.8	2 0 33.21	. .	67 5 40.0	+ 1.4
	27	ζ[1] Ceti	.	9	6 57.48	− 0.31	**− 10.66**	30 31 54.52	+ 3 29.65	+ 34.7	2 6 46.58	. .	81 42 20.1	+ 0.6
	28	Lalande 4271	.	9	12 30.84	− 0.21	− 10.59	16 11 53.25	+ 4 0.72	+ 17.1	2 12 20.04	− 5.24	67 22 32.3	+24.0
	29	Sylvia	12.5	8	17 51.06	− 0.37	− 10.59	36 13 2.28	+ 5 40.78	+ 43.2	2 17 40.10	. .	87 28 47.5	− 2.2
	30	Saturn I, S.	.	6	31 29.32	− 0.30	− 10.58	26 43 55.65	+ 4 44.86	+ 29.7	2 31 18.44	+ 0.75	77 55 31.4	. .
	31	Saturn II, N.	.	5	31 30.82	− 0.30	− 10.58	26 43 55.65	+ 4 24.77	+ 29.7	2 31 19.94	− 0.75	77 55 11.3	. .
	32	Vesta	6.5	9	40 51.82	− 0.36	− 10.58	34 26 0.05	+ 4 54.60	+ 40.4	2 40 40.88	. .	85 37 56.2	− 3.2
	33	Freia	13	9	47 9.20	− 0.27	− 10.58	23 9 51.92	+ 5 24.47	+ 25.3	2 46 58.35	. .	74 22 2.9	− 1.7
	34	Neptune	.	9	54 25.71	− 0.28	− 10.57	24 6 0.48	+ 3 27.55	+ 26.4	2 54 14.86	. .	75 16 15.6	. .
	35	γ[2] Urs. Min., S. P.	.	9	21 3.70	− 1.93	− 10.56	291 8 1.22	+ 3 31.80	− 2 30.7	15 20 51.21	. .	342 15 23.5	+ 2.5
	36	Jupiter I, S.	.	6	25 29.88	− 0.26	− 10.56	21 21 54.02	+ 5 17.45	+ 23.1	3 25 19.06	+ 1.73	72 33 55.8	. .
	37	Jupiter II, N.	.	5	25 33.34	− 0.26	− 10.56	21 21 54.02	+ 4 30.24	+ 23.1	3 25 22.52	− 1.73	72 33 8.6	. .
	38	δ Persei	.	9	34 44.67	+ 0.09	− 10.55	351 25 56.95	+ 3 21.05	− 8.8	3 34 34.21	. .	42 35 30.4	+ 1.5
	39	η Tauri	.	9	40 40.80	− 0.20	**− 10.53**	15 3 55.22	+ 5 5.17	+ 15.9	3 40 30.05	. .	66 15 37.5	+ 0.9
	40	ζ Persei (R.)	.	.	. . .	. .	. .	172 33 52.90	+ 4 30.66	− 7.6	. . . .	. .	58 28 5.2	+ 1.0
	41	ζ Persei	.	.	. . .	. .	. .	7 17 56.45	+ 3 41.45	+ 7.6	3 46 . .	. .	58 28 6.7	+ 2.5
r, W.	42	β Ursæ Minoris	.	9	51 8.16	+ 1.47	− 10.72	324 11 58.50	+ 4 3.84	− 41.3	14 50 58.91	. .	15 21 42.2	+ 1.7
	43	β Bootis	.	.	. . .	. .	. .	357 57 58.72	+ 4 13.19	− 2.0	14 57 . .	. .	49 8 31.1	+ 1.6
	44	B. A. C. 5097	.	9	22 26.23	+ 0.49	− 10.68	339 25 57.45	+ 5 9.75	− 21.4	15 22 16.04	+ 1.16	30 37 7.0	− 4.8
	45	α Cor. Bor.	.	9	29 51.03	− 0.07	**− 10.56**	11 41 54.08	+ 4 40.08	+ 11.9	15 29 40.29	. .	62 53 7.3	+ 1.6
	46	δ Ophiuchi	.	5	8 19.99	− 0.31	**− 10.70**	42 11 52.48	+ 4 10.37	+ 51.7	16 8 9.06	. .	93 23 15.7	+ 1.3
	47	τ Herculis	.	9	16 20.64	+ 0.18	**− 10.66**	352 13 54.22	+ 3 59.10	− 7.7	16 16 10.21	. .	43 24 6.8	+ 0.7
	48	α Scorpii	.	9	22 20.77	− 0.47	**− 10.66**	64 58 1.32	+ 3 40.09	+ 2 1.7	16 22 9.70	. .	116 10 4.3	+ 0.1
	49	β Herculis	.	9	25 18.58	− 0.12	**− 10.52**	17 3 53.72	+ 4 25.93	+ 17.6	16 25 7.86	. .	68 14 58.4	+ 1.2
	50	B. A. C. 5604	.	9	36 59.83	− 0.02	− 10.58	6 59 51.82	+ 4 26.36	+ 7.1	16 36 49.23	− 1.26	58 10 46.5	+ 5.7

o.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
3	30.01	54.8	50.3
6	30.04	53.3	49.3
9	30.05	52.3	47.6
1	30.05	51.8	47.1
4	30.05	50.4	46.2
1	30.06	48.8	45.6
2	30.14	59.8	60.1
6	30.12	62.9	63.2

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

″

2. 11. One bisection. 1 to 41 + 32.99

42. Three bisections. 42 to 50 + 29.31

3, 15, 16, 24, 27, 32, 47, 50. } Four bisections.

21. Five bisections.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
30	− 0.5	− 10.0	. .	− 10.5
31	− 0.5	+ 10.1	. .	+ 9.6
34	− 0.1	. .	. .	− 0.1
36	− 0.8	− 23.6	. .	− 24.4
37	− 0.8	+ 23.6	. .	+ 22.8

DATE. AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
October 27, W.	1	B. A. C. 5731	.	9	55 56.16	− 0.03	− 10.56	7 43 56.40	+ 3 18.46	+ 7.8	16 55 45.57	− 1.35	58 53 43.9	+ 8.2
	2	B. A. C. 5823	.	9	8 34.49	+ 0.77	− 10.54	332 57 58.88	+ 4 17.27	− 29.0	17 8 24.72	+ 2.31	24 8 8.4	+11.8
	3	β Draconis	.	9	27 55.03	+ 0.30	− 10.52	346 25 56.12	+ 4 17.89	− 13.7	17 27 44.81	. .	37 36 21.5	− 0.3
	4	B. A. C. 5996	.	9	37 48.94	− 0.26	− 10.51	34 11 55.90	+ 3 50.19	+ 38.8	17 37 38.17	− 2.46	85 22 46.1	+ 8.4
	5	μ Herculis	.	9	42 0.29	− 0.06	**− 10.44**	11 1 52.72	+ 3 54.74	+ 11.2	17 41 49.73	. .	62 12 19.9	+ 1.0
	6	ψ¹ Draconis	.	.	. . . .	. .	. .	326 37 57.72	+ 3 37.83	− 37.4	17 44 . .	. .	17 47 19.4	+ 0.6
	7	B. A. C. 6082	.	7	52 22.14	+ 0.04	− 10.49	1 33 52.42	+ 3 26.43	+ 1.6	17 52 11.69	− 1.29	52 43 41.6	+16.4
	8	δ Ursæ Minoris	.	11	10 10.92	+ 8.32	− 10.46	312 13 52.95	+ 3 53.58	− 1 2.5	18 10. 8.78	. .	3 23 5.2	− 0.5
	9	Moon I, N.	.	9	17 26.16	− 0.44	− 10.45	60 31 55.55	+ 6 53.08	+ 1 40.8	18 17 15.27	+71.73	111 46 50.6	. .
	10	α Lyræ	.	9	33 6.52	+ 0.06	**− 10.49**	0 9 52.15	+ 2 58 56	+ 0.2	18 32 56.15	. .	51 19 12.1	− 0.9
	11	α Arietis	.	9	0 43.82	− 0.14	**− 10.41**	15 55 54.98	+ 3 7.79	+ 16.8	2 0 33.22	. .	67 5 40.8	+ 2.3
	12	ζ¹ Ceti	.	9	6 57.21	− 0.25	**− 10.44**	30 31 52.95	+ 3 32.81	+ 34.6	2 6 46.50	. .	81 42 21.6	+ 2.1
	13	Lalande 4271	.	9	12 30.64	− 0.14	− 10.46	16 11 49.58	+ 4 6.58	+ 17.1	2 12 20.04	− 5.25	67 22 34.5	+24.1
	14	B. A. C. 746	.	9	18 27.68	− 0.62	− 10.46	76 51 51.40	+ 4 22.28	+ 4 7.2	2 18 16.60	− 4.30	128 6 42.1	+21.6
	15	Saturn I, S.	.	6	31 10.57	− 0.22	− 10.46	26 45 58.75	+ 3 54.78	+ 29.6	2 30 59.89	+ 0.67	77 56 44.3	. .
	16	Saturn II, N.	.	5	31 11.92	− 0.22	− 10.46	26 45 58.75	+ 4 13.42	+ 29.6	2 31 1.24	− 0.68	77 57 3.0	. .
	17	γ Ceti	.	9	37 23.71	− 0.30	**− 10.52**	36 3 55.52	+ 4 40.23	+ 42.8	2 37 12.95	. .	87 15 39.8	+ 2.4
	18	O. Arg. N. 3195	.	6	42 16.18	+ 0.34	− 10.46	343 25 58.72	+ 3 25.70	− 17.4	2 42 6.06	− 7.34	34 35 28.2	+18.2
	19	B. A. C. 863	.	5	42 18.99	+ 0.34	− 10.46	343 25 58.72	+ 3 40.82	− 17.4	2 42 8.87	− 7.34	34 35 43.3	+18.2
	20	Neptune	.	9	54 18.98	− 0.21	− 10.46	24 5 55.95	+ 4 2.47	+ 26.3	2 54 8.31	. .	75 16 45.9	. .
	21	O. Arg. N. 3411.	.	9	57 41.01	+ 0.60	− 10.46	335 13 51.45	+ 4 25.35	− 26.9	2 57 31.15	− 8.72	26 24 11.1	+15.0
	22	48 Cephei (R)	.	.	. . . .	. .	. .	218 19 47.95	+ 3 40.00	+ 46.4	. . . .	. .	12 42 6.8	+ 0.9
	23	48 Cephei	.	6	5 39.77	+ 1.75	− 10.46	321 31 51.25	+ 4 43.51	− 46.4	3 5 31.06	. .	12 42 9.6	+ 3.7
	24	Weisse (2) 320	.	9	17 19.64	− 0.03	− 10.46	5 43 52.32	+ 2 42.39	+ 5.9	3 17 9.15	− 5.78	56 53 1.8	+16.0
	25	B. VI + 33°,656.	.	9	21 8.70	− 0.03	− 10.46	5 25 52.22	+ 3 49.29	+ 5.6	3 20 58.21	− 5.80	56 36 8.3	+15.5
	26	Jupiter I, S.	.	6	24 59.92	− 0.18	− 10.46	21 23 50.52	+ 5 10.27	+ 23.1	3 24 49.28	+ 1.73	72 35 45.1	. .
	27	Jupiter II, N.	.	5	25 3.38	− 0.18	− 10.46	21 23 50.52	+ 4 24.54	+ 23.1	3 24 52.74	− 1.73	72 34 59.4	. .
	28	Weisse (2) 248	.	9	13 46.06	− 0.17	− 10.46	20 21 53.02	+ 3 53.62	+ 21.9	4 13 35.43	− 5.16	71 32 29.7	+11.2
	29	O. Arg. N. 4808	.	9	19 5.20	+ 0.18	− 10.46	350 47 59.25	+ 4 13.45	− 9.4	4 18 54.92	− 6.77	41 58 24.5	+ 5.0
	30	Lalande 8612	.	9	28 4.03	− 0.28	− 10.46	33 29 54.28	+ 3 49.53	+ 38.9	4 27 53.29	− 4.72	84 40 43.9	+12.0
	31	Weisse 685	.	9	33 13.98	− 0.30	− 10.46	36 55 56.18	+ 3 12.37	+ 44.2	4 33 3.22	− 4.61	88 6 14.0	+12.1
	32	Weisse 1067	.	9	50 15.76	− 0.29	− 10.46	35 49 51.35	+ 3 47.49	+ 42.4	4 50 5.01	− 4.59	87 0 42.4	+10.2
	33	Weisse 1223	.	9	56 30.67	− 0.30	− 10.46	36 55 53.02	+ 4 24.83	+ 44.2	4 56 19.91	− 4.54	88 7 23.2	+ 9.8
	34	B. A. C. 1585	.	9	3 54.28	+ 1.20	− 10.46	325 41 51.82	+ 4 54.46	− 39.9	5 3 45.02	−11.88	16 52 27.6	− 6.8
	35	Weisse (2) 245	.	6	11 9.18	− 0.03	− 10.46	5 25 52.32	+ 4 0.86	+ 5.6	5 10 58.69	− 5.63	56 36 20.0	+ 0.7
	36	Weisse (2) 247	.	5	11 9.47	− 0.03	− 10.46	5 25 52.32	+ 3 45.54	+ 5.6	5 10 58.98	− 5.63	56 36 4.7	+ 0.7
	37	β Tauri	.	9	19 2.01	− 0.08	**− 10.37**	10 17 53.98	+ 5 15.62	+ 10.8	5 18 51.47	. .	61 29 41.6	+ 1.4
	38	δ Orionis	.	9	26 10.80	− 0.32	**− 10.47**	39 11 51.38	+ 4 11.89	+ 48.0	5 26 0.03	. . .	90 23 12.5	+ 1.0
	39	α Leporis	.	7	27 43.83	− 0.45	**− 10.53**	56 42 . .	. .	. .	5 27 32.93	. .	107 54 . .	. .
	40	ε Orionis	.	9	30 25.61	− 0.32	**− 10.45**	40 5 57.10	+ 3 30.38	+ 49.5	5 30 14.84	. .	91 16 38.2	+ 0.1
	41	α Orionis (R)	.	.	. . . .	. .	. .	148 25 57.10	+ 4 1.26	− 36.0	. . . .	. .	82 36 58.8	+ 2.3
	42	α Orionis	.	.	. . . .	. .	. .	31 25 56.62	+ 4 5.29	+ 36.0	5·49 . .	. .	82 36 59.1	+ 2.6
Nov. 3, W.	43	α² Can. Ven.	.	9	50 39.80	− 0.08	**− 10.45**	359 51 55.35	+ 4 28.43	− 0.1	12 50 29.34	. .	51 2 44.9	+ 1.9
	44	Venus II, N.	.	9	3 26.06	− 0.51	− 10.38	43 45 56.55	+ 3 43.49	+ 56.1	13 3 15.17	− 0.39	94 56 57.3	. .
	45	Polaris, S. P.	.	4	17 4.20	−22.92	− 10.37	307 31 51.65	+ 4 1.36	− 1 15.8	1 16 30.91	. .	358 40 58.4	+ 1.0
	46	α Bootis	.	9	10 26.41	− 0.30	**− 10.33**	18 59 56.22	+ 5 31.60	+ 20.2	14 10 15.76	. .	70 12 9.2	+ 3.2
	47	θ Bootis	.	9	21 18.94	+ 0.17	− 10.35	346 26 . .	. .	. .	14 21 8.76	. .	37 36 . .	. .
	48	ρ Bootis	.	9	26 53.98	− 0.18	**− 10.30**	7 56 . .	. .	. .	14 26 43.46	. .	59 7 . .	. .
4	49	Sun I, S.	.	9	39 2.73	− 0.60	− 10.34	54 40 1.05	+ 3 27.46	+ 1 22.4	14 38 51.79	+67.27	105 51 12.1	. .
	50	Sun II, N.	.	9	41 17.28	− 0.60	− 10.34	54 8 6.95	+ 3 3.31	+ 1 20.8	14 41 6.34	−67.28	105 18 52.3	. .

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
10	30.11	63.4	63.7
11	30.11	51.8	49.5
29	30.11	50.7	48.5
42	30.12	50.8	48.6
43	29.79	46.4	44.9
50	29.79	47.2	45.6

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

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36. One bisection. 1 to 10 + 29.31
9. Three bisections. 11 to 42 + 33.47
3, 10, 43. Four bisections. 43 to 50 + 33.57
8. Five bisections.

42. Barometer and thermometers read at 6ʰ 12ᵐ.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
9	−51 3.1	+ 16 2.1	. .	− 35 1.0
15	− 0.5	+ 9.3	. .	+ 8.8
16	− 0.5	− 9.4	. .	− 9.9
20	− 0.1	. .	. .	− 0.1
26	− 0.8	− 22.8	. .	− 23.6
27	− 0.8	+ 22.9	. .	+ 22.1
44	− 4.2	+ 5.8	− 0.2	+ 1.4
49	− 7.3	− 16 9.9	. .	− 16 17.2
50	− 7.3	+ 16 9.9	. .	+ 16 2.6

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
Nov. 4, W.	1	α Cor. Bor.		3	29 50.83	− 0.22	**− 10.22**	11 42 . .	. .	. .	15 29 40.29	. .	62 53 . .	. .
	2	β¹ Scorpii		4	58 44.89	− 0.63	**− 10.43**	58 16 . .	. .	. .	15 58 33.95	. .	109 29 . .	. .
	3	κ Ophiuchi		9	52 14.93	− 0.39	**− 10.29**	29 15 58.70	+ 3 26.14	+ 32.8	16 52 4.25	. .	80 26 18.8	+ 2.6
	4	β Draconis		9	27 54.72	+ 0.18	− 10.27	346 25 57.25	+ 4 22.29	− 14.0	17 27 44.63	. .	37 36 26.7	+ 3.0
	5	α Ophiuchi		.	. . .	. .	. .	26 9 42.35	+ 4 31.45	+ 28.7	17 29 . .	. .	77 21 3.7	+ 3.8
	6	B. A. C. 5996		3	37 48.82	− 0.43	− 10.27	34 11 54.42	+ 3 52.60	+ 39.7	17 37 38.12	− 2.38	85 22 47.9	+ 7.7
	7	μ Herculis		9	42 0.11	− 0.22	**− 10.21**	11 1 55.40	+ 3 54.37	+ 11.4	17 41 49.62	. .	62 12 22.4	+ 2.2
	8	ψ¹ Draconis		3	44 8.45	+ 1.11	− 10.27	326 37 59.05	+ 3 42.54	− 38.3	17 43 59.29	. .	17 47 24.5	+ 3.9
	9	B. A. C. 6082		9	52 21.89	− 0.09	− 10.26	1 33 53.38	+ 3 29.43	+ 1.7	17 52 11.54	− 1.15	52 43 45.7	+15.0
	10	δ Ursæ Minoris		8	10 8.11	+ 8.31	− 10.26	312 13 56.25	+ 3 55.96	− 1 3.9	18 10 6.16	. .	3 23 9.5	+ 2.3
	11	α Lyræ		9	33 6.27	− 0.07	**− 10.28**	0 9 52.30	+ 3 2.24	+ 0.2	18 32 55.95	. .	51 19 15.9	+ 1.9
	12	ω Piscium		9	53 27.09	− 0.40	**− 10.19**	32 36 . .	. .	. .	23 53 16.51	. .	83 47 . .	. .
	13	B. A. C. 8352		9	56 29.34	− 0.74	− 10.17	69 9 52.92	+ 3 50.31	+ 2 35.9	23 56 18.43	− 4.46	120 22 40.3	+21.0
	14	α Andromedæ		6	2 29.32	− 0.19	**− 10.14**	10 23 57.50	+ 2 57.25	+ 11.0	0 2 18.96	. .	61 33 27.0	+ 1.7
	15	Weisse (2) 100		9	6 7.28	− 0.25	− 10.17	15 59 48.02	+ 4 27.53	+ 17.2	0 5 56.86	− 4.64	67 10 54.0	+33.6
	16	B. A. C. 79 (R)		.	. . .	. .	. .	192 23 54.60	+ 4 26.96	+ 13.2	. . . .	. .	38 37 46.4	+36.3
	17	B. A. C. 79		.	. . .	. .	. .	347 27 59.75	+ 3 41.63	− 13.2	0 18 . .	. .	38 37 49.4	+36.3
	18	12 Ceti		9	24 13.03	− 0.50	**− 10.09**	43 25 55.05	+ 3 16.09	+ 56.5	0 24 2.36	. .	94 36 28.8	+ 2.3
	19	κ Draconis, S. P.		9	28 35.41	− 1.96	− 10.17	289 18 . .	. .	. .	12 28 23.28	. .	340 26 . .	. .
	20	β Ceti		9	37 52.33	− 0.62	**− 10.26**	57 26 0.60	+ 4 6.75	+ 1 33.3	0 37 41.55	. .	108 38 1.9	+ 1.7
	21	Polaris		4	16 17.95	+22.00	− 10.15	310 9 53.02	+ 4 0.18	− 1 10.3	1 16 29.80	. .	1 19 4.1	+ 1.6
5, E.	22	ι Piscium		9	34 3.56	− 0.35	**− 9.07**	33 49 58.62	+ 3 39.78	+ 39.1	23 33 54.11	. .	85 0 38.7	+ 1.8
	23	Groom. 4163 (R)		.	. . .	. .	. .	214 48 0.12	+ 3 13.27	+ 40.6	. . . .	. .	16 14 27.2	− 0.7
	24	Groom. 4163		5	49 17.70	+ 1.67	− 9.10	325 5 58.35	+ 2 51.58	− 40.6	23 49 10.27	. .	16 14 30.5	+ 2.6
	25	ω Piscium		9	53 25.90	− 0.34	**− 9.07**	32 36 2.18	+ 4 15.14	+ 37.4	23 53 16.46	. .	83 47 15.9	+ 2.3
	26	B. A. C. 8375		9	1 4.43	− 0.82	− 9.10	78 18 1.00	+ 3 12.16	+ 4 35.5	0 0 54.51	− 4.53	129 32 9.9	+18.5
	27	α Andromedæ		8	2 28.16	− 0.09	**− 9.09**	10 23 52.55	+ 3 3.13	+ 10.8	0 2 18.97	. .	61 33 27.7	+ 2.5
	28	γ Pegasi		9	7 20.49	− 0.25	**− 9.16**	24 18 2.00	+ 3 22.81	+ 26.4	0 7 11.15	. .	75 28 12.4	+ 3.2
	29	B. A. C. 166 (R)		.	. . .	. .	. .	171 15 55.75	+ 3 41.20	− 8.9	. . . .	. .	59 46 53.1	+33.4
	30	B. A. C. 166		.	. . .	. .	. .	8 35 53.80	+ 4 29.93	+ 8.9	0 33 . .	. .	59 46 53.8	+33.4
	31	B. A. C. 237		9	45 24.72	− 0.37	− 9.08	36 3 56.22	+ 4 12.31	+ 42.6	0 45 15.27	− 4.62	87 15 12.3	+28.3
	32	B. A. C. 243		9	47 26.02	− 0.36	− 9.08	35 18 1.45	+ 8 4.66	+ 41.5	0 47 16.58	− 4.63	86 33 8.8	+28.4
	33	B. A. C. 261		3	51 15.73	+ 0.92	− 9.08	333 7 58.38	+ 3 10.04	+ 29.5	0 51 7.57	− 7.36	24 17 0.1	+34.0
	34	B. A. C. 285		9	56 32.52	− 0.05	− 9.08	7 39 56.60	+ 3 11.19	+ 7.9	0 56 23.39	− 5.16	58 49 36.9	+32.0
	35	B. A. C. 355		9	5 47.73	− 0.73	− 9.08	71 39 57.15	+ 3 22.46	+ 2 55.0	1 5 37.92	− 4.46	122 52 35.8	+20.8
	36	Polaris		7	16 14.23	+26.24	− 9.07	310 9 56.45	+ 3 54.96	− 1 9.0	1 16 31.40	. .	1 19 3.6	+ 1.4
	37	D. M. +8°, 246		3	27 54.60	− 0.31	− 9.07	30 23 54.85	+ 5 46.74	+ 34.4	1 27 45.22	− 4.84	81 36 37.2	+27.2
	38	D. M. +8°, 247		8	28 2.01	− 0.31	− 9.07	30 23 54.85	+ 4 23.02	+ 34.4	1 27 52.63	− 4.84	81 35 13.5	+27.2
	39	B. A. C. 536		9	38 46.51	− 0.55	− 9.07	55 21 58.88	+ 3 46.95	+ 1 24.6	1 38 36.89	− 4.54	106 33 31.6	+23.2
	40	β Arietis		9	48 18.48	− 0.19	**− 9.07**	18 35 56.32	+ 3 25.62	+ 19.7	1 48 9.23	. .	69 46 2.8	+ 2.0
	41	Weisse 919		9	53 25.66	− 0.48	− 9.05	48 21 53.10	+ 3 59.29	+ 1 5.9	1 53 16.13	− 4.63	99 33 19.5	+23.6
	42	Lalande 3837		3	58 37.77	− 0.51	− 9.05	51 13 58.60	+ 4 1.22	+ 1 12.9	1 58 28.21	− 4.60	102 25 33.9	+23.0
	43	α Arietis		9	0 42.46	− 0.16	**− 8.99**	15 55 55.95	+ 3 5.67	+ 16.8	2 0 33.25	. .	67 5 39.6	+ 1.8
	44	ξ¹ Ceti		9	6 55.94	− 0.31	**− 9.07**	30 31 57.50	+ 3 27.77	+ 34.6	2 6 46.58	. .	81 42 21.1	+ 1.5
	45	Anonymous		9	22 9.51	− 0.07	− 9.05	7 51 55.70	+ 4 46.58	+ 8.2	2 22 0.39	− 5.65	59 3 11.7	+23.9
	46	Saturn I, N		6	28 20.95	− 0.29	− 9.05	26 59 50.32	+ 3 24.10	+ 29.9	2 28 11.61	+ 0.71	78 10 5.5	. .
	47	Saturn II, S.		5	28 22.38	− 0.29	− 9.05	26 59 50.32	+ 3 43.31	+ 29.9	2 28 13.04	− 0.72	78 10 24.7	. .
	48	γ Ceti		9	37 22.44	− 0.38	**− 9.10**	36 3 55.75	+ 4 39.63	+ 42.8	2 37 13.01	. .	87 15 39.4	+ 1.5
	49	B. A. C. 873		9	42 58.38	− 0.78	− 9.05	74 48 2.12	+ 4 37.69	+ 3 33.6	2 42 48.55	− 4.29	126 2 34.6	+19.0
	50	Moon I, N.		9	48 18.67	− 0.22	− 9.05	20 25 55.02	+ 2 20.73	+ 21.9	2 48 9.40	+68.95	71 34 58.9	. .

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
3	29.82	48.2	46.7
11	29.84	47.7	47.9
13	29.98	42.4	38.8
20	29.96	41.7	38.7
22	30.07	53.0	51.2
36	30.08	52.5	50.0

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

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23, 24, 38, 39. One bisection. 3 to 11 + 33.57

36. Three bisections. 13 to 21 + 33.65

10. Five bisections. 22 to 50 + 32.87

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
46	− 0.5	+ 9.6	. .	+ 9.1
47	− 0.5	− 9.6	. .	− 10.1
50	−19 57.4	+15 44.0	. .	− 4 13.4

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
Nov.					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
5, E.	1	Moon II			50 36.58	− 0.22	− 9.05	20 42 . .	. . .	. . .	2 50 27.31	−68.96	71 52 . .	. .
8, W.	2	λ Draconis, S. P.			. . .	. .	. .	288 51 53.78	+ 3 9.79	− 2 45.1	11 24 . .	. .	339 58 39.7	+ 1.2
	3	ι Piscium			. . .	. .	. .	33 49 56.20	+ 3 42.52	+ 38.4	23 34 . .	. .	85 0 38.3	+ 1.3
	4	B. A. C. 8268			. . .	. .	. .	340 49 54.62	+ 4 5.13	− 19.8	23 41 . .	. .	32 0 1.2	+39.8
	5	Groom. 4163			. . .	. .	. .	325 5 54.52	+ 2 52.33	− 39.8	23 49 . .	. .	16 14 28.2	+ 1.1
	6	ω Piscium			. . .	. .	. .	32 35 58.00	+ 4 16.23	+ 36.6	23 54 . .	. .	83 47 12.0	− 1.7
	7	α Andromedæ			. . .	. .	. .	10 23 54.45	+ 3 0.02	+ 10.5	0 2 . .	. .	61 33 26.2	+ 1.2
	8	γ Pegasi			. . .	. .	. .	24 17 59.42	+ 3 22.02	+ 25.9	0 7 . .	. .	75 28 8.5	− 0.6
13, E.	9	κ Cancri		8	1 28.59	− 0.35	− **6.16**	27 39 47.78	+ 4 53.32	+ 31.5	9 1 22.06	. .	78 51 33.8	+ 2.4
	10	α Cephei, S. P.		9	15 53.91	− 1.42	− 6.19	280 59 50.85	+ 4 23.45	− 4 57.7	21 15 46.30	. .	332 5 37.8	+ 4.2
	11	α Hydræ		9	21 54.66	− 0.51	− **6.20**	46 57 55.70	+ 3 30.80	+ 1 4.2	9 21 47.96	. .	98 8 51.9	+ 2.7
	12	θ Ursæ Majoris		9	25 4.37	+ 0.17	− 6.19	346 35 52.98	+ 5 29.10	− 14.2	9 24 58.35	. .	37 47 29.1	+ 2.8
	13	ε Leonis		9	39 16.07	− 0.24	− **6.22**	14 29 49.85	+ 4 42.50	+ 15.6	9 39 9.62	. .	65 41 9.2	+ 1.6
	14	Moon II, S.		9	54 17.03	− 0.39	− 6.22	32 11 50.02	+ 3 24.35	+ 37.9	9 54 10.42	−61.62	83 22 13.5	. .
	15	α Leonis		9	2 12.16	− 0.35	− **6.22**	26 15 49.88	+ 4 48.41	+ 29.7	10 2 5.59	. .	77 27 29.2	+ 1.3
	16	γ^1 Leonis		9	13 34.78	− 0.28	− **6.28**	18 21 49.58	+ 5 21.38	+ 20.1	10 13 28.27	. .	69 33 52.3	+ 2.1
	17	ρ Leonis		9	26 42.66	− 0.38	− **6.19**	28 53 51.18	+ 4 31.54	+ 33.3	10 26 36.04	. .	80 5 17.2	+ 2.3
S.	18	Polaris, S. P.		9	16 51.32	−19.16	− 5.96	307 31 52.20	+ 4 4.32	− 1 16.2	1 16 26.20	. .	358 41 1.5	+ 0.7
	19	α Virginis		9	19 4.54	− 0.42	− **6.00**	49 19 54.10	+ 5 13.62	+ 1 8.5	13 18 58.16	. .	100 32 37.4	+ 0.2
	20	Venus I, S.		6	49 52.27	− 0.40	− 5.96	48 23 53.18	+ 4 58.29	+ 1 6.0	13 49 45.91	+ 0.35	99 36 18.7	. .
	21	Venus II, N.		5	49 53.02	− 0.40	− 5.96	48 23 53.18	+ 4 45.95	+ 1 6.0	13 49 46.66	− 0.40	99 36 6.3	. .
	22	α Bootis		9	10 22.06	− 0.20	− **5.96**	18 59 51.05	+ 5 37.31	+ 20.2	14 10 15.90	. .	70 12 9.8	+ 1.4
	23	Mercury, C.		9	29 15.66	− 0.41	− 5.96	51 35 56.00	+ 3 22.26	+ 1 13.4	14 29 9.29	− 0.16	102 46 52.9	. .
	24	ε Bootis		9	39 55.04	− 0.13	− **5.92**	11 13 53.92	+ 5 12.16	+ 11.6	14 39 48.95	. .	62 25 38.9	+ 0.7
14	25	Sun I, N.		9	19 19.71	− 0.44	− 5.96	56 55 50.88	+ 4 41.05	+ 1 28.8	15 19 13.31	+68.43	108 8 21.9	. .
	26	Sun II, S.		5	21 36.56	− 0.44	− 5.95	57 27 55.75	+ 4 57.40	+ 1 30.6	15 21 30.17	−68.43	108 40 45.0	. .
	27	β Herculis		9	25 13.93	− 0.16	− **5.90**	17 3 54.92	+ 4 28.48	+ 17.8	16 25 7.82	. .	68 15 2.4	+ 1.6
	28	ζ Ophiuchi		9	30 45.34	− 0.38	− **5.98**	49 7 57.60	+ 4 7.33	+ 1 6.6	16 30 39.01	. .	100 19 32.7	+ 1.6
	29	η Herculis		9	38 55.62	+ 0.02	− **5.97**	359 39 52.82	+ 4 49.10	− 0.3	16 38 49.69	. .	50 51 2.8	+ 2.3
	30	1 Pegasi		9	16 44.21	− 0.24	− **5.83**	19 29 53.25	+ 5 9.20	+ 20.8	21 16 38.09	. .	70 41 44.4	+ 1.1
	31	Weisse 557		9	25 33.83	− 0.29	− 5.88	27 11 53.68	+ 3 52.75	+ 30.2	21 25 27.66	− 3.34	78 22 37.8	+29.2
	32	ξ Aquarii		9	31 34.99	− 0.42	− **5.90**	47 11 53.28	+ 3 33.48	+ 1 3.3	21 31 28.69	. .	98 22 51.3	+ 0.1
	33	ε Pegasi		9	38 30.11	− 0.31	− **5.83**	29 29 54.02	+ 2 55.72	+ 33.2	21 38 23.93	. .	80 39 44.1	+ 1.3
	34	B. A. C. 7643 (R)			. . .	. .	. .	197 3 52.55	+ 5 44.49	+ 18.1	. . . .	. .	33 56 26.1	+40.8
	35	B. A. C. 7643			. . .	. .	. .	342 45 56.62	+ 4 29.11	− 18.1	21 51 . .	. .	33 56 28.8	+40.8
	36	α Aquarii		9	59 50.33	− 0.37	− **5.94**	39 41 54.90	+ 4 20.39	+ 48.9	21 59 44.09	. .	90 53 25.4	+ 1.2
	37	B. A. C. 7923 (R)			. . .	. .	. .	170 37 55.88	+ 5 7.43	− 9.6	. . . .	. .	60 23 27.5	+36.9
	38	B. A. C. 7923			. . .	. .	. .	9 11 51.45	+ 5 6.02	+ 9.6	22 38 . .	. .	60 23 28.3	+36.9
	39	O. Arg. N. 24991		9	55 14.10	+ 0.22	− 5.86	342 31 53.02	+ 2 59.30	− 18.5	22 55 8.46	− 4.02	33 40 55.0	+41.8
	40	α Pegasi		9	59 0.14	− 0.28	− **5.83**	24 15 56.48	+ 2 49.24	+ 26.7	22 58 54.00	. .	75 25 33.6	+ 1.3
	41	B. A. C. 2		9	2 11.50	− 0.61	− 5.86	72 57 58.10	+ 3 40.40	+ 3 11.9	0 2 5.03	− 4.36	124 11 11.6	+18.4
	42	Weisse (2) 100		9	6 2.90	− 0.24	− 5.86	15 59 51.52	+ 4 23.03	+ 17.1	0 5 56.80	− 4.56	67 10 52.9	+34.1
	43	12 Ceti		9	24 8.69	− 0.41	− **5.90**	43 25 56.15	+ 3 13.70	+ 56.2	0 24 2.42	. .	94 36 27.2	− 0.1
	44	β Ceti		9	37 47.81	− 0.50	− **5.92**	57 25 57.98	+ 4 10.98	+ 1 32.9	0 37 41.45	. .	108 38 3.1	+ 1.5
	45	δ Piscium		9	42 41.41	− 0.34	− 5.86	31 53 54.60	+ 2 25.11	+ 37.0	0 42 35.21	− 4.61	83 3 17.9	+29.0
	46	B. A. C. 243		9	47 22.72	− 0.36	− 5.86	35 21 51.82	+ 4 11.01	+ 42.2	0 47 16.50	− 4.59	86 33 6.2	+28.0
	47	ε Piscium		9	56 56.93	− 0.34	− **5.85**	31 33 53.32	+ 3 43.32	+ 36.6	0 56 50.73	. .	82 44 34.4	− 0.4
	48	β Andromedæ		9	3 15.57	− 0.13	− **5.80**	3 49 51.20	+ 3 49.74	+ 4.0	1 3 9.58	. .	55 0 6.1	+ 0.1
	49	Polaris		7	16 15.09	+16.80	− 5.86	310 9 52.30	+ 3 57.07	− 1 10.1	1 16 26.03	. .	1 19 0.5	+ 1.5
	50	α Hydræ		9	21 54.16	− 0.43	− **5.75**	46 57 59.92	+ 3 24.83	+ 1 3.9	9 21 48.00	. .	98 8 49.9	+ 0.5

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.09	51.0	48.5
2	30.23	63.8	63.3
8	30.22	63.8	63.8
9	30.00	43.2	37.0
17	30.05	39.0	35.5
18	30.11	48.5	47.8
26	30.12	53.9	56.3
29	30.10	56.7	58.4
30	30.14	52.8	50.5
40	30.14	49.9	46.0
41	30.13	48.8	43.5
49	30.11	45.8	42.5
50	30.29	44.8	43.6

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

		″
6. One bisection.	2 to 8	+ 33.01
14, 49. Three bisections.	9 to 17	+ 40.59
32, 36, 42, 50. Four bisections.	18 to 29	+ 38.99
	30 to 49	+ 38.77
	50	+ 39.64

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
14	−28 47.8	− 14 49.5	. .	− 43 37.3
20	− 4.4	− 6.3	. .	− 10.7
21	− 4.4	+ 6.3	− 0.2	+ 1.7
23	− 9.1	. .	− 1.2	− 10.3
25	− 7.5	+ 16 11.5	. .	+ 16 4.0
26	− 7.6	− 16 11.5	. .	− 16 19.1

TE D 'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
v.					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
S.	1	11 Cephei, S. P.		9	40 19.33	− 1.57	− 5.71	289 37 59.02	+ 4 57.50	− 2 45.2	21 40 12.05	. .	340 46 32.5	+ 1.7
	2	μ Leonis		9	46 9.39	− 0.20	− 5.65	12 15 57.80	+ 3 54.04	+ 13.1	9 46 3.49	. .	63 26 26.1	+ 0.1
	3	α Leonis		9	2 11.62	− 0.30	− 5.70	26 15 55.88	+ 4 41.64	+ 29.6	10 2 5.64	. .	77 27 28.3	+ 0.2
	4	32 Ursæ Majoris		9	9 32.10	+ 0.46	− 5.67	333 8 1.65	+ 4 42.58	− 30.2	10 9 26.89	. .	24 18 35.2	+ 0.8
	5	9 Draconis		9	25 5.12	+ 1.21	− 5.65	322 30 . .	. . .	. . .	10 25 0.68	. .	13 41 . .	. .
	6	ρ Leonis		8	26 42.08	− 0.32	− 5.64	28 53 55.00	+ 4 26.95	+ 33.2	10 26 36.12	. .	80 5 16.4	+ 1.3
	7	Moon II, S.		9	40 4.78	− 0.37	− 5.63	36 43 56.80	+ 4 13.82	+ 44.9	10 39 58.78	−61.55	87 55 16.7	. .
	8	δ Leonis		9	7 55.71	− 0.25	− 5.60	17 37 58.32	+ 5 15.53	+ 19.2	11 7 49.87	. .	68 49 54.2	− 0.2
R.	9	Polaris, S. P.		7	16 54.67	−21.04	− 5.70	307 31 51.98	+ 4 6.16	− 1 18.3	1 16 27.93	. .	358 41 1.0	− 0.2
	10	ζ Virginis		8	28 46.46	− 0.37	− 5.81	38 48 0.75	+ 4 18.74	+ 48.7	13 28 40.40	. .	89 59 29.4	+ 0.6
	11	η Bootis		9	49 9.01	− 0.20	− 5.63	19 49 53.68	+ 4 1.29	+ 21.8	13 49 3.13	. .	71 0 38.0	+ 1.0
	12	Venus II, C.		9	54 36.03	− 0.43	− 5.68	48 51 54.85	+ 3 47.38	+ 1 9.1	13 54 29.92	− 0.38	100 3 12.5	. .
	13	α Bootis (R)		.	. . . .	. .	. .	160 49 51.65	+ 4 39.27	− 20.9	. . . .	. .	70 12 11.2	+ 2.5
	14	α Bootis		.	. . . .	. .	. .	18 59 54.32	+ 5 32.71	+ 20.9	14 10 . .	. .	70 12 9.1	+ 0.4
	15	θ Bootis		9	21 14.41	+ 0.24	− 5.66	346 25 57.30	+ 4 13.26	− 14.5	14 21 8.99	. .	37 36 17.3	+ 1.5
	16	ε Bootis		9	39 54.70	− 0.12	− 5.58	11 13 56.58	+ 5 8.89	+ 12.0	14 39 48.93	. .	62 25 38.7	+ 0.2
	17	Sun I, S.		9	23 26.19	− 0.49	− 5.63	57 43 51.10	+ 4 15.56	+ 1 35.0	15 23 20.07	+68.59	108 56 2.9	. .
	18	Sun II, N.		9	25 43.37	− 0.49	− 5.63	57 11 53.85	+ 3 50.35	+ 1 33.1	15 25 37.25	−68.59	108 23 38.5	. .
	19	κ Ophiuchi		9	52 10.07	− 0.27	− 5.59	29 15 55.08	+ 3 29.98	+ 33.6	16 52 4.22	. .	80 26 19.9	+ 2.1
	20	a^1 Herculis		9	9 21.02	− 0.23	− 5.56	24 18 0.38	+ 3 32.49	+ 27.1	17 9 15.22	. .	75 28 21.2	+ 3.2
	21	β Draconis		9	27 49.61	+ 0.26	− 5.56	346 25 57.25	+ 4 23.32	− 14.4	17 27 44.31	. .	37 36 27.4	+ 0.9
	22	α Ophiuchi		9	29 32.57	− 0.25	− 5.62	26 9 51.68	+ 4 21.06	+ 29.5	17 29 26.76	. .	77 21 3.4	+ 1.9
	23	u Herculis		9	41 55.16	− 0.10	− 5.49	11 1 53.78	+ 3 57.16	+ 11.7	17 41 49.51	. .	62 12 23.8	+ 1.4
	24	ψ^1 Draconis		4	44 2.88	+ 1.15	− 5.55	326 38 0.80	+ 3 42.63	− 39.3	17 43 58.48	. .	17 47 25.3	+ 1.9
	25	γ Draconis (R)		.	. . . .	. .	. .	192 31 49.65	+ 4 42.75	+ 13.4	. . . .	. .	38 29 35.4	+ 1.4
	26	γ Draconis		.	. . . .	. .	. .	347 19 52.02	+ 3 37.26	− 13.4	17 54 . .	. .	38 29 37.1	+ 3.1
	27	δ Ursæ Minoris		6	9 59.95	+ 7.96	− 5.54	312 13 49.52	+ 4 5.20	− 1 5.7	18 10 2.37	. .	3 23 10.2	+ 0.7
	28	Weisse 557	6.8	9	25 33.34	− 0.25	− 5.46	27 11 54.20	+ 3 49.60	+ 31.2	21 25 27.63	− 3.33	78 22 36.2	+29.1
	29	11 Cephei		9	40 16.51	+ 1.05	− 5.46	328 3 56.12	+ 3 51.44	− 37.6	21 40 12.10	. .	19 13 31.2	+ 2.0
	30	μ Capricorni		9	46 58.19	− 0.46	− 5.48	52 53 54.88	+ 4 44.25	+ 1 20.1	21 46 52.28	. .	104 6 20.4	+ 1.2
	31	79 Draconis		9	51 28.97	+ 1.26	− 5.45	325 41 53.05	+ 3 25.56	− 41.2	21 51 24.78	. .	16 50 58.6	+ 2.6
	32	α Gruis		9	0 54.51	− 0.83	− 5.44	86 9 49.32	+ 3 11.93	+12 46.2	22 0 48.24	. .	137 32 8.6	+ 8.8
	33	θ Aquarii		9	10 42.92	− 0.41	− 5.44	47 9 52.18	+ 4 48.85	+ 1 5.5	22 10 37.07	. .	98 22 7.7	+ 0.9
	34	π Aquarii		9	19 21.58	− 0.34	− 5.44	38 2 . .	. . .	. . .	22 19 15.81	. .	89 13 . .	. .
	35	9 Draconis, S. P		9	25 8.60	− 2.39	− 5.43	295 9 49.28	+ 4 48.56	− 2 8.1	10 25 0.78	. .	346 18 50.9	+ 1.1
	36	226 Cephei		3	30 17.65	+ 1.54	− 5.43	323 13 51.98	+ 3 3.92	− 45.3	22 30 13.76	. .	14 22 31.8	+ 2.5
	37	ζ Pegasi		9	35 41.14	− 0.26	− 5.39	28 35 58.52	+ 4 0.24	+ 33.2	22 35 35.45	. .	79 46 53.2	+ 2.4
	38	ι Cephei (R)		.	. . . .	. .	. .	206 35 53.68	+ 5 8.27	+ 30.6	. . . .	. .	24 24 48.6	+ 0.1
	39	ι Cephei		3	45 35.48	+ 0.71	− 5.42	333 15 57.38	+ 3 3.50	− 30.6	22 45 30.77	. .	24 24 51.5	+ 3.0
	40	O. Arg. N. 24991		9	55 13.53	+ 0.37	− 5.42	342 31 54.00	+ 2 58.26	− 19.1	22 55 8.48	− 3.99	33 40 54.4	+41.9
	41	δ Piscium		9	42 40.80	− 0.30	− 5.36	31 53 57.28	+ 2 23.19	+ 38.1	0 42 35.14	− 4.60	83 3 19.8	+29.0
	42	Weisse 806	9.2	9	47 42.64	− 0.34	− 5.36	37 31 53.15	+ 4 43.33	+ 47.1	0 47 36.94	− 4.57	88 43 44.8	+27.4
	43	B. A. C. 282		9	56 29.54	+ 0.48	− 5.35	338 23 55.90	+ 3 28.01	− 24.2	0 56 24.67	− 6.65	29 33 20.9	+36.0
	44	B. A. C. 335		9	3 56.90	+ 0.60	− 5.35	335 15 57.18	+ 3 26.40	− 28.1	1 3 52.15	− 7.18	26 25 16.7	+35.4
	45	Polaris		8	16 11.89	+20.53	− 5.34	310 9 49.42	+ 4 1.58	− 1 12.3	1 16 27.08	. .	1 18 59.9	+ 1.2
	46	B. A. C. 454		9	25 35.73	− 0.27	− 5.34	28 31 53.88	+ 4 15.61	+ 33.4	1 25 30.12	− 4.85	79 43 4.1	+27.4
	47	Lalande 3401		8	45 28.90	− 0.21	− 5.33	21 5 58.32	+ 4 35.24	+ 23.8	1 45 23.36	− 5.10	72 17 18.6	+27.2
	48	Weisse 919	9.2	.	. . . .	. .	. .	48 21 53.20	+ 3 55.47	+ 1 9.1	1 53 . .	. .	99 33 19.0	+22.3
	49	Lalande 3837		.	. . . .	. .	. .	51 13 53.05	+ 4 2.72	+ 1 16.5	1 58 . .	. .	102 25 33.5	+21.6
	50	Sylvia	13.	.	. . . .	. .	. .	36 33 52.30	+ 4 27.83	+ 45.6	2 3 . .	. .	87 45 26.9	− 2.2

Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*	No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
in.	°	°			′ ″	′ ″	′ ″	′ ″
30.37	42.2	39.8		7	−32 30.3	− 14 53.7	. .	− 47 24.0
30.44	41.3	39.4	ZENITH-POINT CORR.	12	− 4.4	. .	− 0.2	− 4.6
30.46	42.2	40.2		17	− 7.6	− 16 12.2	. .	− 16 19.8
30.47	43.5	42.1	″	18	− 7.6	+ 16 12.2	. .	+ 16 4.6
30.47	44.2	43.5	25, 26. One bisection. 1 to 8 + 39.64					
30.48	46.1	45.2	7, 27, 35. Three bisections. 9 to 27 + 38.66					
30.50	52.0	44.7	8, 9, 16, 28, 30, 32, 40. Four bisections. 28 to 50 + 38.61					
30.48	46.0	44.9	45. Five bisections.					
30.54	42.6	40.5						
30.54	42.2	39.8						
30.56	40.6	38.1	9. Barometer and thermometers read at 13^h 0^m.					
30.59	40.0	35.6	11. Barometer and thermometers read at 13^h 40^m.					
30.59	39.4	35.3	16. Barometer and thermometers read at 14^h 46^m.					

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
Nov. 15, R.	1	Vesta	7.0	9	21 22.48	− 0.34	− 5.31	35 19 54.78	+ 5 27.01	+ 43.7	2 21 16.83	. .	86 32 26.7	− 3.2
	2	Saturn I, S.	.	6	25 15.13	− 0.27	− 5.31	27 11 51.50	+ 5 42.96	+ 31.7	2 25 9.55	+ 0.69	78 24 27.4	. .
	3	Saturn II, N.	.	5	25 16.52	− 0.27	− 5.31	27 11 51.50	+ 5 23.43	+ 31.7	2 25 10.94	− 0.70	78 24 7.8	. .
	4	Freia	13.5	8	32 8.28	− 0.25	− 5.30	24 31 52.82	+ 5 58.58	+ 28.2	2 32 2.73	. .	75 44 40.8	− 1.8
	5	γ Ceti	.	3	37 18.76	− 0.34	**− 5.40**	36 3 53.82	+ 4 39.56	+ 44.9	2 37 13.12	. .	87 15 39.5	+ 0.9
	6	Neptune	.	9	52 8.04	− 0.24	− 5.29	24 13 55.58	+ 5 11.95	+ 27.8	2 52 2.51	. .	75 25 56.5	. .
	7	α Ceti	.	9	56 14.11	− 0.33	**− 5.22**	35 11 52.98	+ 3 25.20	+ 43.5	2 56 8.49	. .	86 22 22.9	+ 1.4
	8	ζ Arietis (R)	.	.	. . . .	. .	. .	161 37 56.90	+ 5 10.81	− 20.3	. . . .	. .	69 23 33.8	+ 1.4
	9	ζ Arietis	.	.	. . . .	. .	. .	18 11 51.38	+ 5 0.93	+ 20.3	3 8 . .	. .	69 23 33.8	+ 1.4
	10	Jupiter I, S.	.	6	14 43.47	− 0.22	− 5.28	22 1 53.12	+ 4 27.27	+ 25.0	3 14 37.97	+ 1.71	73 13 6.6	. .
	11	Jupiter II, N.	.	5	14 46.90	− 0.22	− 5.28	22 1 53.12	+ 3 40.00	+ 25.0	3 14 41.40	− 1.72	73 12 19.3	. .
	12	γ^2 Urs. Min., S. P.	.	6	20 57.42	− 1.84	− 5.28	291 7 59.52	+ 3 32.19	− 2 37.6	15 20 50.30	. .	342 15 15.3	+ 1.6
	13	δ Persei	.	9	34 39.63	+ 0.14	**− 5.28**	351 25 59.25	+ 3 13.88	− 9.2	3 34 34.50	. .	42 35 25.1	0.0
	14	η Tauri	.	9	40 35.77	− 0.16	**− 5.23**	15 3 52.90	+ 5 5.10	+ 16.7	3 40 30.34	. .	66 15 35.9	+ 0.3
	15	ρ Leonis	.	7	26 41.44	− 0.27	**− 5.02**	28 53 55.58	+ 4 26.71	+ 34.5	10 26 36.13	. .	80 5 18.0	+ 2.7
	16	l Leonis	.	9	43 8.78	− 0.26	**− 5.06**	27 37 58.98	+ 5 1.94	+ 32.7	10 43 3.49	. .	78 49 54.8	+ 0.5
	17	α Ursæ Maj. (R)	.	.	. . . .	. .	. .	203 25 54.72	+ 2 54.32	+ 27.0	. . . .	. .	27 37 5.2	+ 2.2
	18	α Ursæ Majoris	.	.	. . . .	. .	. .	336 25 55.38	+ 5 16.11	− 27.0	10 56 . .	. .	27 37 5.7	+ 2.7
	19	δ Leonis	.	9	7 55.09	− 0.17	**− 5.03**	17 37 57.75	+ 5 15.97	+ 19.9	11 7 49.91	. .	68 49 54.8	+ 0.2
	20	δ Crateris	.	9	13 32.06	− 0.48	**− 4.98**	52 55 59.08	+ 4 37.00	+ 1 22.4	11 13 26.58	. .	104 8 19.7	− 0.2
	21	Moon II, S.	.	9	26 10.06	− 0.38	− 4.99	41 27 58.22	+ 4 4.56	+ 55.0	11 26 4.69	−62.02	92 39 19.0	. .
	22	β Leonis (R)	.	.	. . . .	. .	. .	156 15 57.42	+ 4 40.61	− 27.2	. . . .	. .	74 46 10.4	+ 0.5
	23	β Leonis	.	.	. . . .	. .	. .	23 33 54.20	+ 5 29.15	+ 27.2	11 43 . .	. .	74 46 11.8	+ 1.9
	24	γ Ursæ Majoris	.	.	. . . .	. .	. .	344 27 58.50	+ 5 10.84	− 17.1	11 48 . .	. .	35 39 13.4	+ 1.2
	25	ο Virginis	.	9	59 16.90	− 0.28	**− 4.97**	29 25 58.08	+ 3 49.84	+ 35.0	11 59 11.66	. .	80 36 44.1	+ 0.8
	26	γ Corvi	.	9	9 49.58	− 0.50	**− 4.94**	55 41 55.25	+ 3 21.62	+ 1 30.7	12 9 44.13	. .	106 53 8.8	+ 2.6
W.	27	α^2 Can. Ven.	.	9	50 34.70	+ 0.09	**− 5.25**	359 51 52.68	+ 4 33.67	− 0.1	12 50 29.50	. .	51 2 47.5	+ 0.8
R.	28	Polaris, S. P.	.	3	16 55.20	−21.80	− 4.89	307 31 52.12	+ 4 10.46	− 1 19.7	1 16 28.51	. .	358 41 4.1	+ 2.7
W.	29	Polaris, S. P.	.	5	16 59.80	−24.83	− 5.28	307 31 52.20	+ 4 9.08	− 1 19.6	1 16 29.69	. .	358 41 2.9	+ 1.5
	30	η Ursæ Majoris	.	9	42 56.93	+ 0.30	− 5.28	348 55 55.00	+ 3 53.91	− 11.9	13 42 51.95	. .	40 5 58.2	+ 0.9
	31	η Bootis	.	9	49 8.66	− 0.15	**− 5.31**	19 49 52.72	+ 4 1.74	+ 22.1	13 49 3.24	. .	71 0 37.8	+ 0.5
	32	Venus N.	.	.	. . . .	. .	. .	49 17 55.30	+ 4 25.62	+ 1 11.1	. . . .	. .	100 29 53.2	. .
	33	Venus II, S.	.	9	59 19.79	− 0.44	− 5.27	49 17 55.30	+ 4 38.06	+ 1 11.1	13 59 14.08	− 0.38	100 30 5.7	. .
	34	α Bootis	.	9	10 21.34	− 0.14	**− 5.27**	18 59 50.88	+ 5 36.08	+ 21.1	14 10 15.93	. .	70 12 9.3	+ 0.3
	35	β Ursæ Minoris	.	8	50 2.32	+ 1.75	− 5.26	324 11 50.68	+ 4 22.54	− 43.6	14 49 58.81	. .	15 21 50.8	+ 2.8
16	36	Sun I, S.	.	9	27 33.60	− 0.50	− 5.25	57 58 1.88	+ 4 59.97	+ 1 36.4	15 27 27.85	+68.68	109 10 59.4	. .
	37	Sun II, N.	.	9	29 50.97	− 0.50	− 5.25	57 25 59.98	+ 4 40.79	+ 1 34.5	15 29 45.22	−68.69	108 38 36.5	. .
	38	τ Herculis	.	9	16 15.10	+ 0.27	− 5.23	352 13 48.95	+ 4 13.13	− 8.1	16 16 10.14	. .	43 24 15.2	+ 3.2
	39	α Scorpii	.	9	22 15.40	− 0.57	**− 5.19**	64 57 56.62	+ 3 36.89	+ 2 8.2	16 22 9.60	. .	116 10 2.9	− 0.3
	40	η Herculis	.	9	38 54.99	+ 0.15	**− 5.47**	359 39 50.75	+ 4 50.97	− 0.3	16 38 49.91	. .	50 51 2.6	+ 1.5
	41	κ Ophiuchi	.	9	52 9.59	− 0.22	**− 5.16**	29 15 55.80	+ 3 28.74	+ 33.6	16 52 4.15	. .	80 26 19.3	+ 1.3
	42	α^1 Herculis	.	9	9 20.58	− 0.17	**− 5.18**	24 18 0.20	+ 3 31.86	+ 27.1	17 9 15.19	. .	75 28 20.4	+ 2.2
	43	μ Herculis	.	9	41 54.68	− 0.01	**− 5.11**	11 1 52.28	+ 3 59.52	+ 11.7	17 41 49.46	. .	62 12 24.7	+ 2.1
	44	θ Piscium	.	9	22 5.31	− 0.34	**− 4.92**	33 5 56.22	+ 3 1.53	+ 39.6	23 22 0.09	. .	84 15 58.6	+ 0.2
	45	ι Piscium	.	9	33 59.29	− 0.35	**− 4.91**	33 49 53.08	+ 3 43.56	+ 40.8	23 33 54.07	. .	85 0 38.6	+ 1.4
	46	B. A. C. 8268	.	5	41 24.34	+ 0.43	− 4.87	340 49 51.62	+ 4 9.24	− 21.0	23 41 19.90	− 4.95	32 0 1.1	+41.1
	47	Groom. 4163 (R)	.	.	. . . .	. .	. .	214 47 54.38	+ 3 18.88	+ 42.3	. . . .	. .	16 14 25.6	+ 0.3
	48	Groom. 4163	.	4	49 13.92	+ 1.40	− 4.86	325 5 54.52	+ 2 54.74	− 42.3	23 49 10.46	. .	16 14 28.2	+ 2.9
	49	α Andromedæ	.	9	2 23.86	− 0.12	**− 4.86**	10 23 50.80	+ 3 2.01	+ 11.2	0 2 18.88	. .	61 33 25.2	+ 0.7
	50	γ Pegasi	.	7	7 16.03	− 0.26	**− 4.77**	24 17 55.60	+ 3 26.42	+ 27.5	0 7 10.92	. .	75 28 10.7	+ 1.6

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.57	38.3	33.8
6	30.58	37.7	33.2
14	30.58	36.7	32.5
15	30.64	34.5	28.2
21	30.65	33.8	29.5
26	30.65	34.3	31.5
27	30.66	36.7	33.9
28	30.66	37.0	34.2
34	30.68	40.9	39.2
37	30.65	44.9	43.8
40	30.62	47.9	46.3
43	30.61	50.8	47.4
44	30.57	43.8	39.8

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

			″
22, 23.	One bisection.	1 to 14	+ 38.61
28.	Three bisections.	15 to 26	+ 39.14
6, 19.	Four bisections.	27	+ 38.37
21, 29.	Five bisections.	28	+ 39.14
		29 to 43	+ 38.37
		44 to 50	+ 38.56

21. Barometer and thermometers read at $11^h\ 21^m$.
26. Barometer and thermometers read at $12^h\ 16^m$.
28. Barometer and thermometers read at $13^h\ 0^m$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
2	− 0.5	− 9.8	. .	− 10.3
3	− 0.5	+ 9.8	. .	+ 9.3
6	− 0.1	. .	. .	− 0.1
10	− 0.8	− 23.6	. .	− 24.4
11	− 0.8	+ 23.7	. .	+ 22.9
21	−36 17.3	− 15 0.7	. .	− 51 18.0
32	− 4.4	+ 6.3	− 0.1	+ 1.8
33	− 4.4	− 6.3	. .	− 10.7
36	− 7.6	− 16 11.4	. .	− 16 19.0
37	− 7.5	+ 16 11.4	. .	+ 16 3.9

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
Nov. 5, W.	1	B. A. C. 62		9	13 31.64	− 0.48	− 4.85	48 17 58.80	+ 3 8.07	+ 1 8.3	0 13 26.31	− 4.36	99 28 36.4	+25.3
	2	B. A. C. 166 (R)			. . . .	. .	. .	171 15 49.58	+ 3 47.13	− 9.3	. . . .	. .	59 46 53.8	+34.5
	3	B. A. C. 166			. . . .	. .	. .	8 35 52.68	+ 4 32.29	+ 9.3	0 32 . .	. .	59 46 55.5	+34.5
	4	Polaris		7	16 11.73	+22.48	− 4.82	310 9 49.35	+ 4 0.42	− 1 12.0	1 16 29.39	. .	1 18 59.9	+ 0.6
	5	B. A. C. 536		9	38 42.33	− 0.55	− 4.81	55 21 50.88	+ 3 50.86	+ 1 28.4	1 38 36.97	− 4.53	106 33 31.3	+21.5
	6	B. A. C. 555		9	43 31.68	+ 0.23	− 4.80	347 29 52.82	+ 2 46.05	− 13.5	1 43 27.11	− 6.54	38 38 46.6	+30.8
	7	Anonymous		9	47 1.10	+ 0.10	− 4.80	353 33 51.02	+ 4 0.52	− 6.8	1 46 56.40	− 6.16	44 44 5.9	+30.0
	8	Weisse 919		8	53 21.42	− 0.49	− 4.80	48 21 52.95	+ 3 57.14	+ 1 8.8	1 53 16.13	− 4.64	99 33 20.1	+22.2
	9	α Arietis		9	0 38.38	− 0.19	**− 4.84**	15 55 53.68	+ 3 4.62	+ 17.5	2 0 33.39	. .	67 5 37.0	− 0.2
	10	Lalande 4280		9	13 43.58	+ 0.37	− 4.79	342 7 56.70	+ 3 48.07	− 19.6	2 13 39.16	− 7.43	33 17 46.4	+27.1
	11	Lalande 4309		9	14 40.86	+ 0.37	− 4.79	342 7 56.70	+ 3 35.32	− 19.6	2 14 36.44	− 7.44	33 17 33.6	+27.0
	12	ξ^2 Ceti		9	22 0.08	− 0.34	**− 4.73**	30 53 54.02	+ 3 12.64	+ 36.6	2 21 54.96	. .	82 4 4.5	+ 0.4
	13	Saturn I, S.		6	24 57.17	− 0.30	− 4.78	27 13 52.30	+ 5 1.45	+ 31.5	2 24 52.09	+ 0.63	78 25 46.5	. .
	14	Saturn II, N.		5	24 58.44	− 0.30	− 4.78	27 13 52.30	+ 4 42.62	+ 31.5	2 24 53.36	− 0.64	78 25 27.6	. .
	15	Neptune		9	52 1.09	− 0.28	− 4.77	24 15 54.70	+ 3 40.90	+ 27.6	2 51 56.04	. .	75 26 24.4	. .
	16	α Ceti		9	56 13.71	− 0.37	**− 4.78**	35 11 51.85	+ 3 25.01	+ 43.2	2 56 8.57	. .	86 22 21.3	− 0.2
	17	48 Cephei (R)			. . . .	. .	. .	218 19 50.42	+ 3 45.35	+ 48.4	. . . .	. .	12 41 57.0	− 2.3
	18	48 Cephei		3	5 34.38	+ 1.89	− 4.76	321 31 50.45	+ 4 37.66	− 48.4	3 5 31.51	. .	12 42 0.9	+ 1.6
E.	19	Polaris, S. P.		8	16 55.62	−23.15	− 4.50	307 31 52.62	+ 4 7.22	− 1 18.4	1 16 27.97	. .	358 41 2.6	+ 0.8
	20	α Virginis		9	19 3.14	− 0.45	**− 4.51**	49 20 . .	. .	. .	13 18 58.19	. .	100 33 . .	. .
	21	ζ Virginis		9	28 45.16	− 0.36	**− 4.48**	38 48 4.58	+ 4 14.27	+ 48.6	13 28 40.30	. .	89 59 28.6	− 0.5
	22	Venus II, S.		9	4 4.12	− 0.44	− 4.48	49 45 58.32	+ 3 11.35	+ 1 10.9	14 3 59.20	− 0.38	100 56 41.8	. .
	23	α Bootis		9	10 20.59	− 0.17	**− 4.48**	18 59 50.05	+ 5 39.07	+ 20.7	14 10 15.95	. .	70 12 11.0	+ 1.8
	24	Mercury II, S.		9	27 33.27	− 0.45	− 4.47	50 59 53.80	+ 3 25.74	+ 1 13.7	14 27 28.35	− 0.28	102 10 54.4	. .
7	25	Sun I, N.		9	31 41.34	− 0.49	− 4.43	57 41 53.72	+ 3 24.57	+ 1 33.1	15 31 36.42	+68.86	108 53 12.6	. .
	26	Sun II, S.		9	33 59.06	− 0.49	− 4.43	58 13 55.18	+ 3 48.12	+ 1 35.0	15 33 54.14	−68.86	109 25 39.5	. .
	27	α Ophiuchi		9	29 31.27	− 0.20	**− 4.38**	26 9 51.62	+ 4 23.00	+ 28.8	17 29 26.70	. .	77 21 4.6	+ 2.8
	28	μ Herculis		9	41 53.90	− 0.04	**− 4.31**	11 1 52.08	+ 3 59.44	+ 11.5	17 41 49.49	. .	62 12 24.2	+ 1.4
	29	γ Draconis		9	53 54.44	+ 0.36	− 4.36	347 19 54.72	+ 3 32.95	− 13.1	17 53 50.44	. .	38 29 35.8	+ 1.3
	30	B. A. C. 6150		9	2 59.94	− 0.03	− 4.36	10 3 55.50	+ 5 31.91	+ 10.5	18 2 55.55	− 1.49	61 15 59.1	+12.9
	31	δ Ursæ Minoris		5	9 56.64	+ 9.41	− 4.35	312 13 55.22	+ 3 58.14	− 1 4.0	18 10 1.70	. .	3 23 10.6	+ 0.6
	32	η Serpentis		9	15 16.51	− 0.33	**− 4.43**	41 43 57.02	+ 4 25.80	+ 52.1	18 15 11.83	. .	92 55 36.1	+ 2.8
	33	α Lyræ		9	32 59.89	+ 0.12	**− 4.31**	0 9 54.35	+ 3 2.10	+ 0.2	18 32 55.67	. .	51 19 17.8	+ 1.4
2, S.	34	θ Piscium		9	22 3.80	− 0.45	**− 3.38**	33 6 . .	. .	. .	23 22 0.01	. .	84 16 . .	. .
	35	ι Piscium		9	33 57.80	− 0.45	**− 3.38**	33 50 . .	. .	. .	23 33 54.01	. .	85 1 . .	. .
	36	ω Piscium		9	53 20.07	− 0.44	**− 3.29**	32 36 . .	. .	. .	23 53 16.29	. .	83 47 . .	. .
	37	α Andromedæ		9	2 22.31	− 0.19	**− 3.30**	10 23 54.92	+ 2 57.62	+ 11.1	0 2 18.78	. .	61 33 24.8	+ 0.6
	38	Weisse 775		9	45 56.44	− 0.47	− 3.34	35 21 55.22	+ 5 47.10	+ 42.9	0 45 52.63	− 4.54	86 34 46.4	+27.7
	39	B. A. C. 261		9	51 9.53	+ 0.79	− 3.34	333 8 2.10	+ 3 0.01	− 30.5	0 51 6.98	− 7.04	24 16 52.8	+38.3
	40	B. A. C. 282		9	56 27.51	+ 0.52	− 3.34	338 23 57.15	+ 3 24.16	− 23.8	0 56 24.69	− 6.54	29 33 18.7	+37.5
	41	Polaris		7	16 3.53	+25.31	− 3.34	310 9 51.38	+ 3 56.54	− 1 11.2	1 16 25.50	. .	1 18 57.9	+ 1.4
	42	α Arietis		3	0 36.95	− 0.26	**− 3.34**	15 56 . .	. .	. .	2 0 33.35	. .	67 6 . .	. .
4, W.	43	ο Piscium		5	39 15.26	− 0.32	**− 3.43**	30 16 . .	. .	. .	1 39 11.54	. .	81 26 . .	. .
	44	β Arietis		9	48 12.86	− 0.22	**− 3.40**	18 35 53.95	+ 3 25.12	+ 20.7	1 48 9.25	. .	69 46 1.0	+ 1.0
	45	50 Cassiopeæ		5	53 30.31	+ 0.94	− 3.39	326 59 51.10	+ 3 16.97	− 39.8	1 53 27.86	. .	18 8 49.5	+ 1.6
	46	α Arietis		9	0 36.92	− 0.20	**− 3.37**	15 55 55.20	+ 3 2.95	+ 17.6	2 0 33.23	. .	67 5 37.0	+ 0.2
	47	ξ^1 Ceti		9	6 50.28	− 0.32	**− 3.36**	30 31 51.55	+ 3 31.27	+ 36.3	2 6 46.58	. .	81 42 20.3	+ 0.1
	48	Weisse (2) 409		9	19 10.13	− 0.23	− 3.37	19 47 57.30	+ 3 57.38	+ 22.2	2 19 6.53	− 5.30	70 58 38.1	+24.6
	49	Saturn I, N.		6	22 41.72	− 0.30	− 3.37	27 23 53.05	+ 4 34.83	+ 31.9	2 22 38.05	+ 0.62	78 35 21.0	. .
	50	Saturn II, S.		4	22 42.96	− 0.30	− 3.37	27 23 53.05	+ 4 55.27	+ 31.9	2 22 39.29	− 0.62	78 35 41.4	. .

No.	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*		No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°				″	′ ″	′ ″	′ ″
3	30.56	41.9	37.7			13	− 0.5	− 9.4	. .	− 9.9
4	30.55	41.8	36.5		ZENITH-POINT CORR.	14	− 0.5	+ 9.5	. .	+ 9.0
18	30.55	40.7	35.9			15	− 0.1	. .	. .	− 0.1
19	30.51	42.0	40.2		″	22	− 4.4	− 5.6	. .	− 10.0
26	30.47	51.5	52.9	19. One bisection.	1 to 18 + 38.56	24	− 8.3	− 4.0	. .	− 12.3
33	30.41	56.6	57.2	31. Three bisections.	19 to 33 + 38.30	25	− 7.5	+ 16 13.4	. .	+ 16 5.9
37	30.33	42.7	38.8	15. Four bisections.	37 to 41 + 37.85	26	− 7.6	− 16 13.4	. .	− 16 21.0
42	30.31	41.2	38.2	4. Five bisections.	44 to 50 + 38.73	49	− 0.5	+ 10.2	. .	+ 9.7
44	30.05	28.5	26.0			50	− 0.5	− 10.2	. .	− 10.7

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
Nov. 24, W.	1	γ Ceti (R)			. . .	. .	. .	143 45 57.20	+ 5 29.75	— 44.9	. . . .	. .	87 15 39.1	— 0.1
	2	γ Ceti			. . .	. .	. .	36 3 51.58	+ 4 43.81	+ 44.9	2 37 . .	. .	87 15 41.5	+ 2.3
	3	O. Arg. N. 3230		9	43 54.11	+ 0.06	— 3.36	352 29 48.85	+ 2 38.55	— 9.1	2 43 50.81	— 6.84	43 38 39.5	+24.4
	4	Neptune		4	51 8.15	— 0.27	— 3.35	24 19 50.62	+ 3 25.29	+ 27.9	2 51 4.53	. .	75 30 5.0	. .
	5	O. Arg. N. 3411		9	57 34.50	+ 0.49	— 3.35	335 13 51.32	+ 4 17.29	— 28.3	2 57 31.64	— 9.12	26 24 1.5	+22.7
	6	Jupiter I, N		6	9 51.91	— 0.25	— 3.34	22 19 49.98	+ 3 30.01	+ 25.3	3 9 48.32	+ 1.65	73 30 6.5	. .
	7	Jupiter II, S		5	9 55.22	— 0.25	— 3.34	22 19 49.98	+ 4 18.21	+ 25.4	3 9 51.63	— 1.66	73 30 54.8	. .
	8	Lalande 6268		9	17 46.30	— 0.29	— 3.33	26 37 57.08	+ 2 32.17	+ 30.9	3 17 42.68	— 5.31	77 47 21.3	+17.7
	9	B. A. C. 1287 (R)			. . . .	. .	. .	189 7 52.90	+ 4 48.29	+ 10.0	. . . .	. .	41 53 30.0	+11.7
	10	B. A. C. 1287			. . . .	. .	. .	350 43 50.18	+ 3 29.92	— 10.0	4 6 . .	. .	41 53 31.3	+11.7
	11	γ Tauri		9	13 10.39	— 0.26	— **3.28**	23 27 55.90	+ 4 46.29	+ 26.8	4 13 6.83	. .	74 39 30.2	+ 1.9
	12	ε Tauri		9	21 49.29	— 0.23	— **3.29**	19 53 53.18	+ 4 20.10	+ 22.4	4 21 45.77	. .	71 4 56.9	+ 1.4
	13	η Draconis, S. P.			. . . .	. .	. .	280 41 50.38	+ 4 0.25	— 5 14.7	16 22 . .	. .	331 46 57.1	+ 0.1
	14	α Tauri		9	29 14.69	— 0.26	— **3.30**	22 31 49.40	+ 5 9.06	+ 25.6	4 29 11.14	. .	73 43 45.3	+ 1.7
	15	α Camelopardalis			. . . .	. .	. .	332 41 52.12	+ 3 58.31	— 31.7	4 42 . .	. .	23 51 39.9	+ 1.2
E.	16	Polaris, S. P.		7	16 50.70	—20.61	— 2.95	307 31 54.00	+ 4 10.41	— 1 20.4	1 16 27.14	. .	358 41 5.2	+ 0.8
	17	η Bootis		7	49 6.58	— 0.28	— **2.92**	19 49 57.12	+ 3 59.77	+ 22.4	13 49 3.37	. .	71 0 40.5	+ 1.0
	18	α Bootis		9	10 19.26	— 0.28	— **2.89**	18 59 51.80	+ 5 37.63	+ 21.4	14 10 16.06	. .	70 12 12.0	+ 0.6
	19	ε Bootis		9	39 52.20	— 0.19	— **2.86**	11 13 54.55	+ 5 13.27	+ 12.4	14 39 49.11	. .	62 25 41.4	0.0
	20	Venus II, C.		9	42 39.14	— 0.57	— 2.90	53 8 2.55	+ 3 15.65	+ 1 22.3	14 42 35.67	— 0.38	104 19 1.7	. .
	21	Mercury C.			. . . .	. .	. .	52 31 55.58	+ 5 6.59	+ 1 20.6	14 48 . .	. .	103 44 44.0	. .
	22	β Bootis		9	57 31.14	— 0.02	**2.96**	357 58 0.78	+ 4 20.78	— 2.1	14 57 28.83	. .	49 8 40.7	+ 1.8
25	23	Sun I, S.		9	5 17.94	— 0.62	2.85	59 58 2.25	+ 3 34.02	+ 1 46.1	16 5 14.47	+69.86	111 9 43.6	. .
	24	Sun II, N.		9	7 37.66	— 0.62	— 2.85	59 25 58.75	+ 3 9.91	+ 1 43.8	16 7 34.19	—69.86	110 37 13.7	. .
	25	α Lyræ		9	32 58.46	— 0.04	— **2.81**	0 9 52.90	+ 3 3.90	+ 0.2	18 32 55.66	. .	51 19 18.2	0.0
	26	β Lyræ		9	45 45.46	— 0.11	— **2.74**	5 35 57.12	+ 3 47.34	— 6.1	18 45 42.60	. .	56 46 11.8	+ 0.4
	27	ζ Aquilæ		9	0 1.78	— 0.31	— **2.75**	25 8 0.62	+ 3 38.90	+ 28.7	18 59 58.72	. .	76 18 29.4	+ 0.9
	28	γ Aquilæ		9	40 41.74	— 0.34	— **2.69**	28 29 53.80	+ 3 25.59	+ 33.2	19 40 38.68	. .	79 40 13.8	+ 0.9
	29	α Aquilæ		9	45 4.38	— 0.36	— **2.71**	30 15 57.35	+ 3 26.99	+ 35.6	19 45 1.30	. .	81 26 21.1	— 0.7
	30	Moon I, S.		9	59 24.54	— 0.59	— 2.71	56 19 55.38	+ 4 18.14	+ 1 31.5	19 59 21.24	+70.64	107 32 6.2	. .
	31	B. A. C. 126 (R)			. . . .	. .	. .	203 17 58.48	+ 5 5.96	+ 26.7	. . . .	. .	27 42 50.1	+40.6
	32	B. A. C. 126			. . . .	. .	. .	336 33 53.92	+ 3 3.65	— 26.7	0 26 . .	. .	27 42 52.1	+40.6
	33	β Ceti		9	37 44.38	— 0.57	— **2.52**	57 26 1.02	+ 4 6.05	+ 1 36.6	0 37 41.28	. .	108 38 4.9	+ 1.9
	34	B. A. C. 215		9	41 9.37	— 0.14	— 2.53	15 11 51.92	+ 3 48.26	+ 16.8	0 41 6.70	— 4.76	66 22 18.2	+33.0
	35	32^1 Camelop, S. P.		5	48 6.78	— 5.45	— 2.53	302 53 55.08	+ 4 35.34	— 1 34.8	12 47 58.80	+ 9.38	354 3 16.8	+38.7
	36	32^2 Camelop, S. P.		5	48 13.98	— 5.45	— 2.53	302 53 55.08	+ 4 16.70	— 1 34.8	12 48 6.00	. .	354 2 58.2	+ 1.8
	37	O. Arg. N. 1031		9	57 7.98	+ 0.59	— 2.52	337 53 57.02	+ 3 2.71	— 25.0	0 57 6.05	— 6.55	29 2 55.9	+38.0
	38	β Andromedæ		9	3 12.04	0.00	— **2.47**	3 49 52.05	+ 3 49.55	+ 4.2	1 3 9.52	. .	55 0 7.0	+ 2.1
	39	Lalande 2142	9.	6	6 23.90	— 0.05	— 2.51	7 21 52.48	+ 4 37.93	+ 8.1	1 6 21.34	— 5.15	58 32 59.7	+33.1
	40	Lalande 2144	8.5	5	6 25.37	— 0.05	— 2.51	7 21 52.48	+ 4 30.73	— 8.1	1 6 22.81	— 5.15	58 32 52.5	+33.1
	41	Polaris		5	16 6.50	+22.76	— 2.51	310 9 51.70	+ 3 56.12	— 1 12.8	1 16 26.75	. .	1 18 56.2	+ 0.7
	42	η Piscium		9	25 14.67	— 0.24	— **2.52**	24 3 57.18	+ 4 53.63	+ 27.7	1 25 11.93	. .	75 15 39.7	+ 2.7
	43	Lacaille 459		6	29 30.37	— 0.79	— 2.50	74 43 55.72	+ 3 2.39	+ 3 43.6	1 29 27.08	— 4.30	125 57 2.9	+15.7
	44	B. A. C. 528		9	36 55.84	— 0.80	— 2.49	76 11 55.28	+ 3 20.97	+ 4 7.8	1 36 52.55	— 4.29	127 25 45.2	+15.2
	45	o Piscium		9	39 14.34	— 0.30	— **2.53**	30 15 55.98	+ 3 13.27	+ 36.1	1 39 11.55	. .	81 26 6.5	+ 1.8
	46	B. A. C. 558		9	44 19.88	+ 0.37	— 2.49	344 15 56.72	+ 4 1.86	— 17.3	1 44 17.76	— 6.78	35 26 2.5	+32.7
	47	Weisse 919		9	53 18.94	— 0.48	— 2.48	48 21 53.70	+ 3 58.18	+ 1 9.5	1 53 15.98	— 4.62	99 33 22.6	+21.0
	48	Weisse 938		5	54 6.29	— 0.48	— 2.48	48 31 54.68	+ 3 16.24	+ 1 9.9	1 54 3.33	— 4.62	99 42 42.0	+21.0
	49	Piazzi II, 10		9	5 3.22	— 0.87	— 2.47	80 9 53.58	+ 3 33.12	+ 5 45.9	2 4 59.88	— 4.26	131 25 33.8	+13.9
	50	Saturn I, N.		6	22 24.98	— 0.27	— 2.45	27 25 55.50	+ 3 43.07	+ 32.1	2 22 22.26	+ 0.73	78 36 31.9	. .

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
8	30.08	27.3	25.5
15	30.10	27.0	25.3
16	30.34	27.8	25.7
24	30.35	32.2	30.8
30	30.30	34.5	33.5
33	30.27	30.8	27.0

For summary of the constants of reduction see page 3.

10. One bisection.
30, 41. Three bisections.
27, 29. Four bisections.

ZENITH-POINT CORR.

1 to 15	+ 38.73
16 to 30	+ 38.79
31 to 50	+ 40.55

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
4	— 0.1	. . .	. .	— 0.1
6	— 0.8	+ 24.1	. .	+ 23.3
7	— 0.8	— 24.2	. .	— 25.0
20	— 4.6	. . .	— 0.1	— 4.7
21	— 6.9	. . .	— 0.4	— 7.3
23	— 7.8	—16 14.9	. .	— 16 22.7
24	— 7.7	+16 14.9	. .	+ 16 7.2
30	—49 27.7	—16 15.7	. .	— 65 43.4
50	— 0.5	+ 9.2	. .	+ 8.7

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
Nov.					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
25, E.	1	Saturn II, S.		5	22 26.44	− 0.27	− 2.45	27 25 55.50	+ 4 1.59	+ 32.1	2 22 23.72	− 0.73	78 36 50.4	. .
	2	D.M. +89°, 4		3	28 9.23	+63.36	− 2.45	309 18 0.75	+ 5 31.42	− 1 15.0	2 29 10.14	−284.85	0 28 38.4	+26.7
	3	D.M. +89°, 3		3	35 0.50	+78.95	− 2.45	309 18 0.75	− 0 5.95	− 1 15.3	2 36 17.00	−361.72	0 23 0.7	+25.6
	4	B. A. C. 853		2	38 50.74	− 0.86	− 2.45	79 45 56.08	+ 4 4.80	+ 5 33.1	2 38 47.43	− 4.24	131 1 55.2	+13.1
	5	B. A. C. 879		9	44 14.26	− 0.74	− 2.45	71 39 54.20	+ 4 51.99	+ 3 5.2	2 44 11.07	− 4.35	122 54 12.6	+14.3
	6	Neptune		9	51 0.99	− 0.24	− 2.44	24 19 53.38	+ 3 49.34	+ 28.0	2 50 58.31	. .	75 30 31.9	. .
	7	Anonymous		9	53 5.96	− 0.31	− 2.44	31 31 53.22	+ 6 35.05	+ 38.0	2 53 3.21	− 5.11	82 45 27.5	+19.6
	8	B. A. C. 984		9	4 7.59	− 0.78	− 2.43	74 38 1.42	+ 4 49.58	+ 3 42.5	3 4 4.38	− 4.30	125 52 54.7	+13.0
	9	Jupiter I, S.		6	9 19.87	− 0.22	− 2.43	22 21 52.78	+ 4 8.17	+ 25.5	3 9 17.22	+ 1.78	73 32 47.7	. .
	10	Jupiter II, N.		5	9 23.44	− 0.22	− 2.43	22 21 52.78	+ 3 21.34	+ 25.5	3 9 20.79	− 1.79	73 32 0.8	. .
	11	Bertha		9	30 50.17	− 0.06	− 2.41	7 41 52.02	+ 6 22.60	+ 8.5	3 30 47.70	. .	58 54 44.3	− 0.5
	12	η Tauri		4	40 33.03	− 0.14	**− 2.40**	15 3 53.50	+ 5 4.81	+ 16.7	3 40 30.48	. .	66 15 36.2	+ 0.9
	13	ζ Persei		9	46 47.86	− 0.05	**− 2.43**	7 17 58.32	+ 3 34.07	+ 8.0	3 46 45.41	. .	58 28 1.6	+ 0.2
	14	γ^1 Eridani		9	52 36.30	− 0.52	**− 2.38**	52 39 57.40	+ 3 2.10	+ 1 20.9	3 52 33.38	. .	103 50 41.6	+ 0.9
	15	γ Tauri		9	13 9.47	− 0.23	**− 2.38**	23 27 59.80	+ 4 43.68	+ 26.9	4 13 6.86	. .	74 39 31.6	+ 3.3
	16	ε Tauri (R)			. . . .	. .	. .	159 57 58.68	+ 3 49.09	− 22.4	. . . .	. .	71 4 55.8	+ 0.3
	17	ε Tauri			. . . .	. .	. .	19 53 51.05	+ 4 23.27	+ 22.4	4 22 . .	. .	71 4 57.9	+ 2.4
	18	Thetis	10.3	9	34 30.54	− 0.24	− 2.37	24 13 55.72	+ 5 0.02	+ 27.8	4 34 27.93	. .	75 25 44.7	− 2.0
27, R.	19	μ Capricorni		9	46 53.49	− 0.52	**− 0.87**	52 53 54.05	+ 4 48.73	+ 1 17.7	21 46 52.11	. .	104 6 21.7	+ 1.8
	20	Moon I, S.		8	54 19.63	− 0.47	− 0.86	46 53 57.35	+ 4 54.05	+ 1 2.9	21 54 18.30	+ 67.71	98 6 15.5	. .
	21	32 Ursæ Maj., S. P.		6	9 30.15	− 1.63	− 0.85	284 36 . .	. .	. .	10 9 27.67	. .	335 41 . .	. .
	22	θ Aquarii		3	10 38.23	− 0.47	**− 0.85**	47 9 51.95	+ 4 52.12	+ 1 3.6	22 10 36.91	. .	98 22 8.9	+ 1.4
	23	π Aquarii		8	19 16.86	− 0.40	**− 0.82**	38 1 56.42	+ 4 4.43	+ 46.2	22 19 15.61	. .	89 13 8.2	+ 1.7
	24	9 Draconis, S. P.		8	25 5.86	− 2.61	− 0.84	295 9 52.95	+ 4 41.02	− 2 4.4	10 25 2.41	. .	346 18 50.8	+ 2.7
	25	η Aquarii		9	29 19.52	− 0.41	**− 0.90**	39 31 57.80	+ 4 16.06	+ 48.8	22 29 18.27	. .	90 43 23.9	+ 1.2
	26	ζ Pegasi		9	35 36.46	− 0.32	**− 0.81**	28 35 59.65	+ 3 59.13	+ 32.3	22 35 35.30	. .	79 46 52.3	+ 1.0
	27	ι Cephei (R)			. . . .	. .	. .	206 35 53.78	+ 5 9.90	+ 29.7	. . . .	. .	24 24 47.8	+ 0.3
	28	ι Cephei		6	45 30.26	+ 0.70	− 0.84	333 15 58.08	+ 2 59.83	− 29.7	22 45 30.12	. .	24 24 49.4	+ 1.9
	29	α Pegasi		9	58 54.98	− 0.29	**− 0.82**	24 15 58.32	+ 2 47.22	+ 26.7	22 58 53.86	. .	75 25 33.4	+ 0.7
	30	B. A. C. 8206 (R)			. . . .	. .	. .	171 41 51.25	+ 5 22.47	− 8.0	. . . .	. .	59 19 15.5	+37.4
	31	B. A. C. 8206			. . . .	. .	. .	8 8 0.38	+ 4 47.84	+ 8.0	23 28 . .	. .	59 19 17.4	+37.4
	32	Lalande 4280		8	13 39.30	+ 0.33	− 0.76	342 8 0.02	+ 3 42.76	− 19.1	2 13 38.87	− 7.41	33 17 44.9	+29.6
	33	Lalande 4309		9	14 36.52	+ 0.33	− 0.76	342 8 0.02	+ 3 29.63	− 19.1	2 14 36.09	− 7.42	33 17 31.7	+29.5
	34	Saturn I, S.		6	21 52.65	− 0.32	− 0.76	27 28 1.50	+ 4 9.90	+ 31.0	2 21 51.57	+ 0.68	78 39 3.6	. .
	35	Saturn II, N.		5	21 54.02	− 0.32	− 0.76	27 28 1.50	+ 3 51.21	+ 31.0	2 21 52.94	− 0.69	78 38 44.9	. .
	36	O. Arg. N. 3230		9	43 51.44	+ 0.09	− 0.75	352 29 53.75	+ 2 30.60	− 7.7	2 43 50.78	− 6.76	43 38 37.9	+24.8
	37	Anonymous	13.5	3	51 35.89	− 0.35	− 0.75	31 28 0.65	+ 6 44.96	+ 36.6	2 51 34.79	− 5.12	82 41 43.4	+19.7
	38	48 Cephei		7	5 30.33	+ 1.81	− 0.74	321 31 56.45	+ 4 27.26	− 47.1	3 5 31.40	. .	12 41 57.8	+ 2.0
	39	Jupiter I, S.		6	8 17.39	− 0.28	− 0.74	22 23 56.08	+ 5 49.01	+ 24.6	3 8 16.37	+ 1.70	73 36 30.9	. .
	40	Jupiter II, N.		5	8 20.80	− 0.28	− 0.74	22 23 56.08	+ 5 2.30	+ 24.6	3 8 19.78	− 1.71	73 35 44.2	. .
	41	α Persei		3	15 57.76	+ 0.15	− 0.74	349 23 56.28	+ 3 22.70	− 11.1	3 15 57.17	. .	40 33 29.1	− 0.4
	42	Bertha	13.5	9	28 46.42	− 0.13	− 0.74	7 41 52.38	+ 5 14.92	+ 8.1	3 28 45.55	. .	58 53 36.6	− 0.5
	43	δ Persei		8	34 35.23	+ 0.11	− 0.73	351 25 59.30	+ 3 12.28	− 8.9	3 34 34.61	. .	42 35 23.9	+ 0.9
	44	η Tauri		9	40 31.42	− 0.20	**− 0.72**	15 3 52.45	+ 5 6.51	+ 16.1	3 40 30.49	. .	66 15 36.3	+ 1.1
	45	ζ Persei		9	46 46.26	− 0.12	**− 0.74**	7 17 56.75	+ 3 36.90	+ 7.7	3 46 45.41	. .	58 28 2.5	+ 1.2
	46	γ^1 Eridani		5	52 34.68	− 0.54	**− 0.73**	52 39 54.28	+ 3 9.44	+ 1 18.0	3 52 33.41	. .	103 50 42.9	+ 1.8
	47	49 Persei		9	0 30.93	− 0.06	− 0.73	1 23 57.08	+ 4 40.65	+ 1.5	4 0 30.14	− 6.57	52 35 0.4	+13.2
	48	Groom. 2320, S. P.		9	5 59.09	− 1.74	− 0.72	286 59 54.00	+ 4 14.27	− 3 11.3	16 5 56.63	. .	338 7 18.2	+ 1.8
	49	ε Tauri (R)			. . . .	. .	. .	159 57 58.42	+ 3 48.04	− 21.6	. . . .	. .	71 4 56.3	+ 0.8
	50	ε Tauri			. . . .	. .	. .	19 53 56.30	+ 4 18.72	+ 21.6	4 22 . .	. .	71 4 57.8	+ 2.3

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
8	30.26	30.0	26.8
18	30.25	30.7	27.0
19	30.05	49.7	47.1
29	30.05	46.8	43.4
35	30.14	44.1	42.6
46	30.14	44.2	42.2
49	30.15	44.7	43.2

For summary of the constants of reduction see page 3.

2, 3, 11, 37, 41. One bisection.
24, 38. Three bisections.
29, 36, 45, 48. Four bisections.
20. Five bisections.

ZENITH-POINT CORR.

″

1 to 18 + 40.55
19 to 31 + 37.81
32 to 50 + 39.11

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
1	− 0.5	− 9.3	. .	− 9.8
6	− 0.1	. .	. .	− 0.1
9	− 0.8	− 23.4	. .	− 24.2
10	− 0.8	+ 23.5	. .	+ 22.7
20	− 43 9.1	− 16 10.6	. .	− 59 19.7
34	− 0.5	− 9.3	. .	− 9.8
35	− 0.5	+ 9.4	. .	+ 8.9
39	− 0.8	− 23.3	. .	− 24.1
40	− 0.8	+ 23.4	. .	+ 22.6

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
Nov.					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
27, W.	1	η Ursæ Majoris		9	42 52.86	+ 0.17	− 0.78	348 55 50.42	+ 4 0.33	− 11.7	13 42 52.25	. .	40 6 0.3	− 1.2
	2	η Bootis		9	49 4.43	− 0.27	**− 0.71**	19 49 45.88	+ 4 11.20	+ 21.7	13 49 3.38	. .	71 0 40.0	− 0.3
	3	α Draconis		9	1 9.53	+ 0.70	− 0.78	333 53 52.68	+ 4 2.68	− 29.3	14 1 9.45	. .	25 3 47.3	− 0.3
	4	α Bootis		9	10 17.19	− 0.26	**− 0.78**	18 59 50.52	+ 5 39.98	+ 20.8	14 10 16.16	. .	70 12 12.5	+ 0.3
	5	ρ Bootis		.	. . . .	. .	. .	7 55 46.42	+ 4 24.28	+ 8.4	14 27 . .	. .	59 6 40.3	+ 0.1
	6	ε Bootis		9	39 50.14	− 0.17	**− 0.77**	11 13 49.60	+ 5 18.12	+ 12.0	14 39 49.21	. .	62 25 40.9	− 1.4
	7	β Ursæ Minoris		9	50 58.20	+ 1.53	− 0.76	324 11 49.78	+ 4 24.22	− 43.1	14 50 58.97	. .	15 21 52.1	− 0.4
	8	Venus N.		.	. . . .	. .	. .	54 17 54.60	+ 3 44.07	+ 1 23.4	. . . .	. .	105 29 23.3	. .
	9	Venus II, S.		9	57 23.12	− 0.58	− 0.76	54 17 54.60	+ 3 56.75	+ 1 23.4	14 57 21.78	− 0.38	105 29 36.0	. .
	10	Mercury C.		9	1 31.43	− 0.58	− 0.75	53 45 52.15	+ 5 0.47	+ 1 21.8	15 1 30.10	− 0.05	104 58 35.6	. .
	11	γ^2 Ursæ Minoris		8	20 50.78	+ 1.26	− 0.75	326 34 . .	. .	. .	15 20 51.29	. .	17 45 . .	. .
	12	B. A. C. 5097		8	22 16.46	+ 0.47	− 0.75	339 25 50.95	+ 5 27.69	− 22.4	15 22 16.18	+ 1.16	30 36 17.4	−16.3
	13	α Cor. Bor.		9	29 41.52	− 0.16	**− 0.80**	11 41 50.60	+ 4 51.14	+ 12.5	15 29 40.62	. .	62 53 15.4	+ 1.2
28	14	Sun I, S.		9	18 5.90	− 0.63	− 0.72	60 29 54.50	+ 4 27.28	+ 1 45.6	16 18 4.55	+69.96	111 42 28.6	. .
	15	Sun II, N.		9	20 25.82	− 0.63	− 0.72	59 58 3.05	+ 3 50.85	+ 1 43.3	16 20 24.47	−69.96	111 9 58.4	. .
	16	α¹ Herculis		9	9 16.33	− 0.30	**− 0.79**	24 17 57.72	+ 3 37.34	+ 27.0	17 9 15.33	. .	75 28 23.3	+ 2.8
	17	β Draconis		5	27 44.64	+ 0.26	− 0.69	346 26 . .	. .	. .	17 27 44.21	. .	37 36 . .	. .
	18	α Ophiuchi		.	. . . .	. .	. .	26 9 47.32	+ 4 28.08	+ 29.4	17 29 . .	. .	77 21 6.0	+ 2.3
	19	γ Draconis		9	53 50.70	+ 0.24	− 0.68	347 19 53.32	+ 3 37.37	− 13.3	17 53 50.26	. .	38 29 38.6	+ 1.0
	20	δ Ursæ Minoris		8	9 50.14	+ 9.03	− 0.68	312 13 48.08	+ 4 8.74	− 1 5.5	18 9 58.49	. .	3 23 12.5	− 0.3
	21	η Serpentis		9	15 12.84	− 0.46	**− 0.66**	41 43 56.00	+ 4 24.31	+ 53.3	18 15 11.71	. .	92 55 34.8	+ 0.4
	22	α Lyræ		9	32 56.19	− 0.01	**− 0.60**	0 9 51.80	+ 3 6.33	+ 0.2	18 32 55.51	. .	51 19 19.5	+ 0.6
	23	β Lyræ		9	45 43.29	− 0.09	**− 0.62**	5 35 57.55	+ 3 46.04	+ 5.9	18 45 42.54	. .	56 46 10.7	− 1.3
	24	σ Sagittarii		9	47 57.79	− 0.68	**− 0.70**	65 13 55.52	+ 4 0.92	+ 2 9.0	18 47 56.45	. .	116 26 26.6	− 1.6
	25	B. A. C. 6491		9	54 31.69	− 0.10	− 0.66	6 17 57.12	+ 3 39.55	+ 6.6	18 54 30.93	− 1.46	57 28 4.5	+18.2
	26	ζ Aquilæ		9	59 59.56	− 0.31	**− 0.65**	25 7 52.48	+ 3 47.61	+ 28.0	18 59 58.69	. .	76 18 29.3	+ 0.4
	27	Moon I, S.		9	48 44.28	− 0.49	− 0.52	41 27 56.22	+ 4 42.19	+ 53.3	22 48 43.27	+66.84	92 39 52.9	. .
	28	ο Cephei (R)		.	. . . .	. .	. .	208 27 54.10	+ 6 18.36	+ 32.8	. . . .	. .	22 31 35.9	− 1.7
	29	ο Cephei		8	13 48.64	+ 0.78	− 0.50	331 21 48.48	+ 4 3.25	− 32.8	23 13 48.92	. .	22 31 40.1	+ 2.5
	30	θ Piscium		9	22 0.83	− 0.42	**− 0.50**	33 5 49.12	+ 3 9.58	+ 39.4	23 21 59.92	. .	84 15 59.3	+ 0.3
	31	λ Draconis, S. P.		9	24 24.99	− 1.96	− 0.49	288 51 51.90	+ 3 15.26	− 2 54.2	11 24 22.54	. .	339 58 34.2	+ 0.6
	32	B. A. C. 8206		9	28 7.90	− 0.17	− 0.49	8 7 53.68	+ 4 53.93	+ 8.7	23 28 7.24	− 4.10	59 19 17.5	+37.4
	33	ι Piscium		9	33 54.81	− 0.43	**− 0.47**	33 49 51.62	+ 3 45.41	+ 40.5	23 33 53.90	. .	85 0 38.7	+ 0.8
	34	γ Cephei		3	34 33.00	+ 1.79	− 0.48	321 51 51.28	+ 3 47.08	− 47.2	23 34 34.31	. .	13 1 12.4	+ 2.1
	35	B. A. C. 8268		7	41 19.58	+ 0.35	− 0.48	340 49 48.92	+ 4 11.08	− 20.9	23 41 19.45	− 4.63	32 0 0.3	+42.7
	36	Groom. 4163		9	49 8.67	+ 2.31	− 0.47	325 5 52.55	+ 2 53.43	− 42.0	23 49 10.51	. .	16 14 25.2	+ 2.1
	37	ω Piscium		9	53 17.12	− 0.42	**− 0.42**	32 35 53.52	+ 4 21.70	+ 38.7	23 53 16.23	. .	83 47 15.1	+ 0.7
	38	γ Pegasi (R)		.	. . . .	. .	. .	155 33 51.88	+ 4 46.33	− 27.3	. . . .	. .	75 28 10.3	+ 1.0
	39	γ Pegasi		.	. . . .	. .	. .	24 17 54.05	+ 3 28.23	+ 27.3	0 7 . .	. .	75 28 10.8	+ 1.5
	40	B. A. C. 79 (R)		.	. . . .	. .	. .	192 23 52.05	+ 4 32.63	+ 13.4	. . . .	. .	38 37 43.1	+40.2
	41	B. A. C. 79		.	. . . .	. .	. .	347 27 65.20	+ 3 42.42	− 13.4	0 18 . .	. .	38 37 45.4	+40.2
	42	O. Arg. N. 1035		8	56 9.40	+ 0.18	− 0.42	346 59 52.35	+ 1 32.36	− 13.9	0 57 9.16	− 5.81	38 7 32.0	+37.6
	43	O. Arg. N. 1047		8	57 30.41	+ 0.18	− 0.42	346 59 52.35	+ 3 54.67	− 13.9	0 57 30.17	− 5.81	38 9 54.3	+37.5
	44	B. A. C. 355		9	5 38.81	− 0.79	− 0.41	71 39 49.58	+ 3 26.77	+ 3 1.4	1 5 37.61	− 4.26	122 52 39.0	+16.3
	45	Polaris		7	15 59.94	+22.22	− 0.40	310 9 50.08	+ 3 58.14	− 1 11.5	1 16 21.76	. .	1 18 57.9	+ 3.3
	46	η Piscium		9	25 12.68	− 0.35	**− 0.44**	24 3 53.08	+ 4 57.96	+ 27.2	1 25 11.94	. .	75 15 39.4	+ 2.4
	47	Lacaille 459		8	29 28.34	− 0.84	− 0.39	74 44 . .	. .	. .	1 29 27.11	− 4.27	125 57 . .	. .
	48	B. A. C. 528		9	36 53.82	− 0.86	− 0.38	76 11 51.82	+ 3 28.06	+ 4 3.4	1 36 52.58	− 4.26	127 25 44.5	+14.6
	49	B. A. C. 536		9	38 37.92	− 0.63	− 0.38	55 21 48.40	+ 3 55.38	+ 1 27.8	1 38 36.91	− 4.47	106 33 32.8	+19.6
	50	B. A. C. 560		.	. . . .	. .	. .	348 47 57.95	+ 3 8.80	− 12.1	1 45 . .	. .	39 47 15.9	+32.8

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.40	41.9	41.9
10	30.43	44.7	43.7
15	30.42	46.0	44.5
16	30.42	46.2	45.2
22	30.41	47.0	45.4
26	30.41	46.9	45.6
28	30.43	42.7	40.7
41	30.44	41.9	39.8
45	30.43	40.9	38.3

For summary of the constants of reduction see page 3.

1, 4, 13, 22. Four bisections.
27. Five bisections.

ZENITH-POINT CORR.
″ 1 to 26 + 37.36
27 to 50 + 39.72

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
8	− 4.6	+ 6.4	− 0.1	+ 1.7
9	− 4.6	− 6.4	. .	− 11.0
10	− 6.5	. .	− 0.3	− 6.8
14	− 7.8	− 16 15.1	. .	− 16 22.9
15	− 7.8	+ 16 15.1	. .	+ 16 7.3
27	−38 55.4	− 16 5.8	. .	− 55 1.2

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
Nov. 29, E.	1	θ Piscium . . .	.	9	22 0.44	− 0.27	− **0.24**	33 5 59.30	+ 3 1.50	+ 38.8	23 21 59.92	. .	84 16 0.8	+ 1.8
	2	ι Piscium . . .	.	9	33 54.46	− 0.28	− **0.28**	33 49 52.90	+ 3 45.76	+ 39.9	23 33 53.96	. .	85 0 39.8	+ 1.9
	3	Moon I, S. . .	.	7	42 13.94	− 0.29	− 0.22	35 59 49.90	+ 3 55.81	+ 43.3	23 42 13.43	+66.52	87 10 50.2	. .
	4	α Andromedæ . .	.	9	2 18.97	− 0.10	− **0.13**	10 24 . .	. . .	. .	0 2 18.65	. .	61 33 . .	. .
	5	B. A. C. 166 (R)	.	.	. . .	. .	. .	171 15 49.48	+ 3 50.28	− 9.1	. . . .	. .	59 46 50.5	+35.2
	6	B. A. C. 166 .	.	.	. . .	. .	. .	8 35 53.90	+ 4 27.75	+ 9.1	0 33 . .	. .	59 46 51.9	+35.2
	7	B. A. C. 253 (R)	.	.	. . .	. .	. .	201 5 51.28	+ 5 5.43	+ 23.1	. . . .	. .	29 55 1.4	+39.3
	8	B. A. C. 253 .	.	7	47 38.04	+ 0.41	− 0.22	338 45 58.10	+ 3 8.14	− 23.1	0 49 38.23	− 6.22	29 55 4.3	+39.3
	9	O. Arg. N. 1031 .	.	9	55 5.48	+ 0.44	− 0.22	337 53 54.35	+ 3 3.21	− 24.1	0 57 5.70	− 6.47	29 2 54.7	+38.8
	10	Polaris . . .	.	4	16 3.25	+18.34	− 0.22	310 10 . .	. . .	. .	1 16 21.37	. .	1 19 . .	. .
Dec. 1, R.	11	θ Piscium . . .	.	7	22 0.30	− 0.37	− **0.05**	33 5 53.88	+ 3 8.70	+ 38.1	23 21 59.89	. .	84 16 1.9	+ 2.7
	12	Philomela . .	13.0	9	25 19.23	− 0.47	− 0.04	50 37 58.08	+ 3 42.66	+ 1 11.2	23 25 18.72	. .	101 49 13.1	− 2.4
	13	ω Piscium . . .	.	9	53 16.66	− 0.37	− **0.04**	32 35 53.58	+ 4 23.56	+ 37.5	23 53 16.24	. .	83 47 15.8	+ 1.2
	14	B. A. C. 2 . .	.	9	2 5.29	− 0.61	− 0.06	72 57 58.75	+ 3 47.46	+ 3 9.3	0 2 4.62	− 4.11	124 11 16.7	+16.0
	15	12 Ceti	.	9	24 2.76	− 0.43	− **0.10**	43 25 55.95	+ 3 17.05	+ 55.5	0 24 2.16	. .	94 36 29.7	+ 1.0
	16	α Cassiopeæ (R.) .	.	.	. . .	. .	. .	193 53 51.30	+ 5 56.34	+ 17.9	. . . .	. .	34 6 15.7	− 0.2
	17	α Cassiopeæ . .	.	2	33 51.12	+ 0.14	− 0.07	342 55 55.12	+ 4 19.39	− 17.9	0 33 51.19	. .	34 6 17.8	+ 1.9
	18	32ᵃ Camelop., S. P. .	.	5	48 11.87	− 4.29	− 0.08	302 53 51.40	+ 4 14.10	− 1 30.2	12 48 7.50	. .	354 2 56.5	+ 1.8
	19	D. M. +60°, 146	8.0	7	55 23.00	+ 0.26	− 0.08	337 53 54.70	+ 2 45.75	− 23.8	0 55 23.18	− 6.38	29 2 37.8	+39.3
	20	O. Arg. N. 1031 .	6.5	9	57 5.49	+ 0.26	− 0.08	337 53 54.70	+ 3 2.20	− 23.8	0 57 5.67	− 6.42	29 2 54.3	+39.1
	21	β Andromedæ . .	.	9	3 9.74	− 0.16	− **0.06**	3 49 48.82	+ 3 51.23	+ 4.0	1 3 9.50	. .	55 0 5.2	+ 0.7
	22	Polaris . . .	.	9	16 3.39	+16.80	− 0.09	310 9 48.45	+ 3 54.80	− 1 9.3	1 16 20.10	. .	1 18 55.1	+ 1.3
	23	Moon I, S. . .	.	9	30 0.78	− 0.32	− 0.10	26 3 52.58	+ 5 3.81	+ 28.9	1 30 0.36	+67.34	77 15 46.5	. .
	24	Weisse (2) 855 .	8.7	9	39 0.03	− 0.18	− 0.10	5 33 48.12	+ 3 57.85	+ 5.8	1 38 59.75	− 5.46	56 44 13.0	+31.2
	25	Lalande 3401 .	6.8	9	45 23.70	− 0.30	− 0.10	21 5 55.68	+ 4 38.65	+ 22.8	1 45 23.30	− 5.06	72 17 18.3	+27.4
	26	Lalande 3837 .	7.0	9	58 28.81	− 0.48	− 0.11	51 13 53.50	+ 4 5.73	+ 1 13.4	1 58 28.22	− 4.56	102 25 33.8	+19.3
	27	Piazzi II, 10 . .	.	9	5 0.56	− 0.68	− 0.11	80 9 50.60	+ 3 49.08	+ 5 30.0	2 4 59.77	− 4.20	131 25 30.9	+12.4
	28	Lalande 4271 .	.	9	12 20.68	− 0.27	− 0.11	16 11 49.05	+ 4 1.63	+ 17.2	2 12 20.30	− 5.36	67 22 29.1	+26.0
	29	Saturn I, S. . .	.	6	20 53.53	− 0.34	− 0.12	27 31 52.40	+ 4 23.91	+ 30.8	2 20 53.07	+ 0.67	78 43 8.3	. .
	30	Saturn II, N. .	.	5	20 54.88	− 0.34	− 0.12	27 31 52.40	+ 4 5.15	+ 30.8	2 20 54.42	− 0.68	78 42 49.6	. .
	31	Neptune . . .	.	9	50 22.40	− 0.32	− 0.13	24 21 51.70	+ 4 21.83	+ 26.8	2 50 21.95	. .	75 33 1.5	. .
	32	Jupiter I, S. .	.	5	6 19.76	− 0.31	− 0.14	22 31 51.72	+ 5 1.31	+ 24.6	3 6 19.31	+ 1.67	73 43 38.8	. .
	33	Jupiter II, N. .	.	5	6 23.10	− 0.31	− 0.14	22 31 51.72	+ 4 15.91	+ 24.6	3 6 22.65	− 1.67	73 42 53.4	. .
	34	B. A. C. 1021 .	.	9	11 58.03	− 0.63	− 0.14	74 53 53.35	+ 3 44.34	+ 3 36.7	3 11 57.26	− 4.28	126 7 35.6	+11.1
	35	Lalande 6268 .	.	9	17 43.14	− 0.34	− 0.14	26 37 55.50	+ 2 36.64	+ 29.7	3 17 42.66	− 5.34	77 47 23.0	+17.5
	36	B. A. C. 1117 .	.	9	33 2.81	+ 0.21	− 0.15	339 15 57.28	+ 2 43.98	− 22.4	3 33 2.87	− 8.78	30 24 40.1	+18.6
	37	O. Arg. N. 4050 .	.	9	37 3.77	+ 0.64	− 0.15	328 19 51.58	+ 4 5.16	− 36.4	3 37 4.26	−11.78	19 29 41.5	+18.0
	38	Piazzi III, 182 .	6.8	6	44 17.28	− 0.65	− 0.15	76 43 52.98	+ 4 41.41	+ 4 7.7	3 44 16.48	− 4.25	127 59 3.3	+ 9.4
	39	Piazzi III, 183 .	5.5	5	44 17.33	− 0.65	− 0.15	76 43 52.98	+ 4 35.01	+ 4 7.6	3 44 16.53	− 4.25	127 58 56.8	+ 9.4
	40	O. Arg. N. 4351 .	.	9	54 18.34	+ 0.52	− 0.16	330 29 52.38	+ 3 10.40	− 33.4	3 54 18.70	−11.17	21 38 50.6	+14.9
	41	γ Tauri. . . .	.	9	13 7.40	− 0.32	− **0.16**	23 27 57.52	+ 3 45.69	+ 25.8	4 13 6.91	. .	74 39 30.2	+ 1.7
	42	ε Tauri . . .	.	9	21 46.30	− 0.30	− **0.15**	19 53 53.15	+ 4 19.86	+ 21.6	4 21 45.83	. .	71 4 55.8	+ 0.2
	43	α Tauri . . .	.	9	29 11.74	− 0.32	− **0.20**	22 31 51.48	+ 5 8.47	+ 24.7	4 29 11.25	. .	73 43 45.9	+ 2.1
	44	α Camelop. . .	.	8	42 24.31	+ 0.41	− 0.18	332 41 51.58	+ 3 56.67	− 30.5	4 42 24.54	. .	23 51 38.9	+ 2.1
	45	ε Ursæ Min., S. P.	.	9	57 57.42	− 3.27	− 0.19	301 3 53.62	+ 5 10.23	− 1 37.9	16 57 53.96	. .	352 13 47.1	− 1.8
	46	β Orionis (R) . .	.	.	. . .	. .	. .	132 41 51.05	+ 5 12.79	− 1 4.1	. . . .	. .	98 20 21.5	+ 1.1
	47	β Orionis . . .	.	.	. . .	. .	. .	47 7 57.72	+ 4 59.41	+ 1 4.1	5 9 . .	. .	98 20 22.4	+ 2.0
	48	Groom. 966 . .	.	9	24 3.64	+ 0.95	− 0.20	323 51 54.20	+ 4 49.89	− 43.3	5 23 4.39	. .	15 2 22.0	+ 1.5
W.	49	α Draconis . .	.	8	1 9.79	+ 0.46	− 0.65	333 53 50.08	+ 4 7.86	− 29.5	14 1 9.60	. .	25 3 49.6	+ 0.6
	50	ε Bootis . . .	.	9	39 50.03	− 0.22	− **0.53**	11 13 48.40	+ 5 22.18	+ 12.0	14 39 49.20	. .	62 25 43.8	+ 0.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.23	45.0	44.0
12	30.13	52.7	51.0
14	30.14	52.3	50.7
22	30.19	50.8	49.3
28	30.23	49.7	47.9
32	30.25	48.9	47.1
41	30.26	48.0	45.7
45	30.27	47.4	45.3
48	30.28	46.2	43.8
49	30.42	42.2	40.1

For summary of the constants of reduction see page 3.

32, 33, 45.	One bisection.	1 to 9 + 40.76
37, 40.	Three bisections.	11 to 48 + 40.06
13, 15, 24, 27, 28, 31, 41, 42, 43, 50,	Four bisections.	49 to 50 + 39.86
3, 18, 22, 23.	Five bisections.	

ZENITH-POINT CORR.

″

12. Barometer and thermometers read at 23ʰ 37ᵐ.
48. Barometer and thermometers read at 5ʰ 57ᵐ.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
3	−34 19.2	− 16 0.2	. .	− 50 19.4
23	−25 16.6	− 15 46.7	. .	− 41 3.3
29	− 0.5	− 9.3	. .	− 9.8
30	− 0.5	+ 9.4	. .	+ 8.9
31	− 0.1	. .	. .	− 0.1
32	− 0.8	− 22.7	. .	− 23.5
33	− 0.8	+ 22.7	. .	+ 21.9

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
Dec.					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
1, W.	1	β Ursæ Minoris	.	9	50 58.57	+ 1.13	— 0.60	324 11 50.95	+ 4 24.73	— 43.2	14 50 59.10	. .	15 21 53.7	— 0.2
	2	β Bootis	.	9	57 29.63	— 0.07	— **0.68**	357 57 51.75	+ 4 29.92	— 2.1	14 57 28.96	. .	49 8 40.8	— 0.4
	3	Venus N.	.	.	. . . .	. .	. .	55 45 52.02	+ 4 7.35	+ 1 28.0	. . . .	. .	106 57 48.6	. .
	4	Venus II, S.	.	9	17 20.84	— 0.53	— 0.58	55 45 52.02	+ 4 20.35	+ 1 28.0	15 17 19.73	— 0.38	106 58 1.6	. .
	5	Mercury C.	.	9	22 16.59	— 0.53	— 0.58	55 35 51.68	+ 3 22.72	+ 1 27.4	15 22 15.48	— 0.03	106 47 3.0	. .
	6	α Cor. Bor.	.	9	29 41.38	— 0.21	— **0.56**	11 41 48.95	+ 4 54.25	+ 12.5	15 29 40.60	. .	62 53 16.9	+ 1.6
	7	α Serpentis	.	9	38 27.68	— 0.37	— **0.58**	31 59 51.12	+ 5 16.53	+ 37.5	15 38 26.74	. .	83 12 6.3	+ 0.4
.2	8	Sun I, S.	.	9	35 20.73	— 0.56	— 0.52	61 7 56.30	+ 4 15.23	+ 1 47.7	16 35 19.65	+70.36	112 20 20.4	. .
	9	Sun II, N.	.	9	37 41.46	— 0.56	— 0.52	60 35 55.55	+ 3 48.45	+ 1 45.3	16 37 40.38	—70.37	111 47 50.5	. .
	10	Saturn I	.	5	20 39.99	— 0.40	— 0.49	27 32 . .	. . .	. .	2 20 39.10	+ 0.64	78 44 . .	. .
	11	Saturn II	.	5	20 41.28	— 0.40	— 0.49	27 32 . .	. . .	. .	2 20 40.39	— 0.65	78 44 . .	. .
	12	Moon I, N.	.	9	25 29.71	— 0.37	— 0.48	21 39 50.85	+ 4 22.29	+ 24.2	2 25 28.86	+68.10	72 50 58.5	. .
	13	Lalande 5284	.	9	45 43.28	— 0.22	— 0.48	3 39 48.52	+ 4 13.40	+ 4.0	2 45 42.58	— 6.08	54 50 27.1	+24.2
	14	Neptune	.	9	50 16.89	— 0.38	— 0.48	24 21 50.08	+ 4 49.40	+ 27.6	2 50 16.03	. .	75 33 28.3	. .
	15	α Ceti	.	9	56 9.51	— 0.46	— **0.43**	35 11 49.80	+ 3 31.16	+ 42.8	2 56 8.57	. .	86 22 25.0	+ 2.3
	16	Jupiter I, N.	.	6	5 51.95	— 0.37	— 0.48	22 33 50.87	+ 3 58.95	+ 25.3	3 5 51.10	+ 1.64	73 44 36.3	. .
	17	Jupiter II, S.	.	5	5 55.24	— 0.37	— 0.48	22 33 50.87	+ 4 45.88	+ 25.3	3 5 54.39	— 1.65	73 45 23.3	. .
	18	ζ Arietis	.	.	. . . .	. .	. .	18 11 48.95	+ 5 4.20	+ 20.0	3 8 . .	. .	69 23 34.4	+ 2.4
	19	α Persei (R)	.	.	. . . .	. .	. .	190 27 54.58	+ 4 45.34	+ 11.3	. . . .	. .	40 33 30.0	+ 1.3
	20	α Persei	.	.	. . . .	. .	. .	349 23 50.12	+ 3 31.33	— 11.3	3 16 . .	. .	40 33 31.3	+ 2.6
	21	γ^2 Ursæ Minoris S. P.	.	5	20 53.03	— 1.69	— 0.48	291 7 53.15	+ 3 30.43	— 2 35.4	15 20 50.86	. .	342 15 9.4	+ 2.1
	22	ε Eridani	.	9	27 25.26	— 0.56	— **0.50**	48 39 47.82	+ 4 14.19	+ 1 9.1	3 27 24.22	. .	99 51 32.3	+ 3.3
	23	δ Persei	.	9	34 35.27	— 0.09	— 0.48	351 25 53.38	+ 3 18.04	— 9.1	3 34 34.70	. .	42 35 23.5	+ 1.4
	24	η Tauri	.	9	40 31.37	— 0.33	— **0.50**	15 3 50.50	+ 5 8.67	+ 16.4	3 40 30.57	. .	66 15 36.8	+ 1.8
	25	ζ Persei (R)	.	.	. . . .	. .	. .	172 33 48.80	+ 4 39.12	— 7.8	. . . .	. .	58 28 1.1	+ 0.3
	26	ζ Persei	.	.	. . . .	. .	. .	7 17 50.52	+ 3 42.41	+ 7.8	3 47 . .	. .	58 28 1.9	+ 1.1
5, R.	27	ω Piscium	.	9	53 16.32	— 0.26	+ **0.15**	32 35 59.05	+ 4 17.34	+ 38.6	23 53 16.15	. .	83 47 16.2	+ 1.4
	28	α Andromedæ	.	9	2 18.62	— 0.07	+ **0.12**	10 23 52.40	+ 3 0.35	+ 11.1	0 2 18.64	.	61 33 25.1	+ 1.1
	29	4 Draconis, S. P.	.	9	5 38.79	— 2.49	+ 0.09	297 7 57.98	+ 3 36.31	— 1 56.7	12 5 36.39	. .	348 15 58.8	+ 2.9
	30	β Ceti	.	9	37 41.61	— 0.45	+ **0.03**	57 25 56.22	+ 4 13.77	+ 1 34.5	0 37 41.26	. .	108 38 5.7	+ 1.4
	31	B. VI + 5°, 114	9.7	9	45 4.14	— 0.27	+ 0.10	33 29 52.65	+ 4 10.66	+ 40.1	0 45 3.97	— 4.45	84 41 4.5	+27.5
	32	32^2 Camelop., S. P.	.	5	48 12.39	— 4.58	+ 0.10	302 53 55.00	+ 4 12.87	— 1 32.9	12 48 7.91	. .	354 2 56.2	+ 2.5
	33	O. Arg. N. 1035	5.0	6	57 8.60	+ 0.24	+ 0.10	346 59 52.88	+ 1 31.66	— 13.9	0 57 8.94	— 5.69	38 7 31.8	+38.5
	34	O. Arg. N. 1047	8.5	6	57 29.65	+ 0.24	+ 0.10	346 59 52.88	+ 3 54.94	— 13.9	0 57 29.99	— 5.70	38 9 55.1	+38.4
	35	Lalande 2142	9.2	6	6 21.30	— 0.05	+ 0.10	7 21 52.05	+ 4 37.65	+ 7.9	1 6 21.35	— 5.06	58 32 58.8	+33.7
	36	Lalande 2144	6.8	5	6 22.70	— 0.05	+ 0.10	7 21 52.05	+ 4 29.85	+ 7.9	1 6 22.75	— 5.06	58 32 51.0	+33.7
	37	Polaris	.	7	15 59.64	+18.86	+ 0.11	310 9 51.52	+ 3 53.88	— 1 11.5	1 16 18.61	. .	1 18 55.1	+ 2.2
	38	η Piscium	.	9	25 11.96	— 0.20	+ **0.09**	24 3 56.65	+ 4 54.03	+ 27.2	1 25 11.87	. .	75 15 39.1	+ 2.0
	39	ο Piscium	.	9	39 11.60	— 0.25	+ **0.10**	30 15 55.92	+ 3 12.60	+ 35.5	1 39 11.46	. .	81 26 5.2	— 0.1
	40	50 Cassiopeæ (R)	.	.	. . . .	. .	. .	212 51 52.78	+ 5 2.80	+ 39.4	. . . .	. .	18 8 46.2	+ 1.0
	41	50 Cassiopeæ	.	.	. . . .	. .	. .	326 59 52.30	+ 3 13.99	— 39.4	1 53 . .	. .	18 8 48.1	+ 2.9
	42	Piazzi II, 10	.	9	4 0.36	— 0.69	+ 0.12	80 9 51.28	+ 3 43.08	+ 5 40.8	2 4 59.79	— 4.15	131 25 36.4	+11.6
	43	B. A. C. 713	.	9	12 22.07	— 0.63	+ 0.12	75 18 0.18	+ 3 46.93	+ 3 49.4	2 12 21.56	— 4.23	126 31 57.7	+12.4
	44	Saturn I, S.	.	6	19 59.40	— 0.24	+ 0.12	27 33 54.58	+ 5 58.59	+ 31.9	2 19 59.28	+ 0.68	78 46 46.3	. .
	45	Saturn II, N.	.	5	20 0.76	— 0.24	+ 0.12	27 33 54.58	+ 5 40.06	+ 31.9	2 20 0.64	— 0.68	78 46 27.7	. .
	46	B. A. C. 812	.	9	33 15.64	— 0.57	+ 0.12	69 29 52.75	+ 3 16.49	+ 2 42.1	2 33 15.19	— 4.34	120 42 12.5	+12.8
	47	B. A. C. 853	6.5	9	38 47.81	— 0.68	+ 0.13	79 45 57.58	+ 4 9.03	+ 5 28.9	2 38 47.26	4.18	131 1 56.7	+10.6
	48	B. A. C. 879	.	9	44 11.43	— 0.59	+ 0.13	71 39 54.80	+ 4 51.79	+ 3 2.8	2 44 10.97	4.31	122 54 10.6	+11.9
	49	Neptune	.	9	49 59.08	— 0.21	+ 0.13	24 23 56.20	+ 3 51.62	+ 27.7	2 49 59.00	. .	75 34 36.7	. .
	50	Jupiter I, S.	.	6	4 29.63	— 0.20	+ 0.13	22 37 58.95	+ 5 30.57	+ 25.5	3 4 29.56	+ 1.71	73 50 16.2	. .

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
9	30.38	47.3	46.8
14	. .	. .	35.8
15	30.31	39.5	. .
25	30.31	38.0	35.3
27	30.28	41.4	39.1
30	30.30	40.9	37.7
44	30.30	37.8	33.5

For summary of the constants of reduction see page 3.

34. One bisection.
1, 12, 32. Three bisections.
2, 5, 6, 7, 28, 39, 49. Four bisections.
29, 37. Five bisections.

ZENITH-POINT CORR.

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1 to 9 + 39.86
12 to 26 + 41.42
27 to 50 + 40.28

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
3	— 4.6	+ 6.5	0.0	+ 1.9
4	— 4.6	— 6.5	. .	— 11.1
5	— 6.2	. .	— 0.2	— 6.4
8	— 7.9	— 16 14.9	. .	— 16 22.8
9	— 7.8	+ 16 14.9	. .	+ 16 7.1
12	— 21 2.2	+ 15 39.1	. .	— 5 23.1
14	— 0.1	. . .	. .	— 0.1
16	— 0.8	+ 23.5	. .	+ 22.7
17	— 0.8	— 23.5	. .	— 24.3
44	— 0.5	— 9.3	. .	— 9.8
45	— 0.5	+ 9.3	. .	+ 8.8
49	— 0.1	. .	. .	— 0.1
50	— 0.8	— 23.4	. .	— 24.2

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
Dec.					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
, R.	1	Jupiter II, N.	.	5	4 33.06	− 0.20	+ 0.13	22 37 58.95	+ 4 43.75	+ 25.5	3 4 32.99	− 1.72	73 49 29.4	. .
	2	B. A. C. 1021	.	9	11 57.71	− 0.63	+ 0.13	74 53 55.50	+ 3 37.19	+ 3 42.5	3 11 57.21	− 4.27	126 7 36.4	+10.1
	3	Weisse (2) 320	.	9	17 9.48	− 0.04	+ 0.13	5 43 53.50	+ 2 35.11	+ 6.2	3 17 9.57	− 6.18	56 52 56.0	+20.1
	4	B. A. C. 1121	.	9	32 22.44	− 0.56	+ 0.14	68 59 54.38	+ 4 14.95	+ 2 38.3	3 32 22.02	− 4.40	120 13 8.8	+ 9.9
	5	O. Arg. N. 4050	.	9	37 3.49	+ 0.88	+ 0.14	328 19 52.10	+ 4 5.03	− 37.5	3 37 4.51	−11.80	19 29 40.8	+19.1
	6	Piazzi III, 182	6.5	5	44 16.90	− 0.64	+ 0.14	76 43 57.45	+ 4 29.48	+ 4 15.2	3 44 16.40	− 4.24	127 59 3.3	+ 8.3
	7	Piazzi III, 183	5.0	6	44 17.16	− 0.64	+ 0.14	76 43 57.45	+ 4 22.14	+ 4 15.2	3 44 16.66	− 4.24	127 58 56.0	+ 8.3
	8	O. Arg. N. 4351	.	9	54 17.66	+ 0.75	+ 0.14	330 29 52.95	+ 3 10.68	− 34.4	3 54 18.55	−11.21	21 38 50.4	+16.0
	9	B. A. C. 1310	.	9	9 35.67	− 0.69	+ 0.15	79 23 54.48	+ 3 57.60	+ 5 18.5	4 9 35.13	− 4.19	130 39 31.8	+ 6.8
	10	Thetis	.	9	24 17.96	− 0.22	+ 0.15	24 25 56.95	+ 4 45.06	+ 27.8	4 24 17.89	. .	75 37 31.0	− 2.0
	11	ι Aurigæ	.	9	49 21.08	− 0.06	+ **0.18**	5 49 52.70	+ 5 0.37	+ 6.3	4 49 21.17	. .	57 1 20.6	+ 0.8
	12	11 Orionis	.	9	57 51.91	− 0.22	+ **0.14**	23 33 53.30	+ 5 0.50	+ 26.8	4 57 51.85	. .	74 45 41.8	− 0.1
	13	ε Ursæ Min., S. P	.	3	57 57.88	− 3.43	+ 0.16	301 3 55.58	+ 5 11.56	− 1 40.9	16 57 54.61	. .	352 13 47.4	− 0.1
	14	α Aurigæ	.	9	8 1.24	+ 0.10	+ **0.12**	352 57 58.45	+ 3 14.75	− 7.5	5 8 1.50	. .	44 7 26.9	− 0.3
	15	Moon I, S.	..	9	16 33.01	− 0.16	+ 0.16	17 15 59.02	+ 4 49.09	+ 19.1	5 16 33.01	+67.84	68 27 28.4	. .
	16	Moon II.	.	9	18 49.07	− 0.16	+ 0.16	17 0 . .	. . .	. . .	5 18 49.07	−68.22	68 12 . .	. .
	17	α Leporis	.	9	27 33.99	− 0.46	+ **0.07**	56 41 53.75	+ 4 40.11	+ 1 33.2	5 27 33.69	. .	107 54 28.3	− 0.1
	18	α Columbæ	.	9	35 25.11	− 0.62	+ **0.26**	72 53 54.82	+ 4 41.61	+ 3 17.5	5 35 24.66	. .	124 8 15.1	− 1.1
	19	α Orionis (R)	.	.	. . . .	. .	. .	148 25 57.75	+ 3 59.93	− 37.5	. . . .	. .	82 37 1.0	+ 0.5
	20	α Orionis	.	.	. . . .	. .	. .	31 25 58.32	+ 4 5.73	+ 37.5	5 49 . .	. .	82 37 2.7	+ 2.2
	21	ν Orionis	.	9	0 52.31	− 0.22	+ **0.20**	24 1 54.10	+ 4 28.60	+ 27.4	6 0 52.26	. .	75 13 11.3	+ 0.4
	22	22 Camelop. (R)	.	.	. . . .	. .	. .	210 21 51.80	+ 5 16.93	+ 36.0	. . . .	. .	20 38 36.5	− 0.9
	23	22 Camelop.	.	.	. . . .	. .	. .	329 28 1.28	+ 4 52.05	− 36.0	6 6 . .	. .	20 38 38.5	+ 1.1
	24	δ Ursæ Min., S. P.	.	3	10 4.77	− 7.45	+ 0.17	305 27 59.55	+ 3 50.68	− 1 25.6	18 9 57.49	. .	356 36 45.8	+ 0.7
	25	51 Cephei	.	3	45 8.90	+ 8.34	+ 0.17	311 37 57.32	+ 3 27.21	− 1 8.7	6 45 17.41	. .	2 46 37.0	+ 1.2
	26	Mars I, S.	.	6	58 1.67	− 0.13	+ 0.19	13 15 53.48	+ 3 58.36	+ 14.5	6 58 1.73	+ 0.58	64 26 27.5	. .
	27	Mars II, N.	.	5	58 2.86	− 0.13	+ 0.19	13 15 53.48	+ 3 40.58	+ 14.5	6 58 2.92	− 0.61	64 26 9.8	. .
, E.	28	Polaris	.	4	15 58.82	+17.96	0.00	310 10 . .	. . .	. . .	1 16 16.78	. .	1 19 . .	. .
	29	η Piscium	.	3	25 12.10	− 0.20	− **0.06**	24 4 . .	. . .	. . .	1 25 11.90	. .	75 16 . .	. .
	30	D. M.+8°, 246	.	6	27 45.25	− 0.24	0.00	30 23 52.82	+ 5 47.95	+ 34.9	1 27 45.01	− 4.73	81 36 36.9	+26.1
	31	D. M.+8°, 247	.	8	27 52.75	− 0.24	0.00	30 23 52.82	+ 4 25.76	+ 34.9	1 27 52.51	− 4.73	81 35 14.7	+26.1
	32	B. A. C. 528	.	9	36 53.06	− 0.60	0.00	76 11 52.30	+ 3 34.07	+ 3 58.0	1 36 52.46	− 4.15	127 25 45.6	+12.8
	33	ο Piscium	.	9	39 11.65	− 0.24	+ **0.03**	30 15 52.98	+ 3 16.02	+ 34.7	1 39 11.41	. .	81 26 4.9	− 0.5
	34	β Arietis	.	9	48 9.31	− 0.16	+ **0.03**	18 35 53.95	+ 3 24.56	+ 20.0	1 48 9.16	. .	69 45 59.7	− 0.2
	35	Weisse 919	9.	9	53 16.39	− 0.37	+ 0.01	48 21 54.82	+ 3 58.91	+ 1 6.9	1 53 16.03	− 4.56	99 33 21.8	+19.5
	36	α Arietis	.	9	0 33.41	− 0.13	+ **0.03**	15 55 54.60	+ 3 4.06	+ 17.0	2 0 33.29	. .	67 5 36.9	+ 0.5
	37	ξ¹ Ceti	.	9	6 46.81	− 0.24	+ **0.00**	30 31 53.38	+ 3 31.39	+ 35.1	2 6 46.58	. .	81 42 21.1	+ 0.2
	38	B. A. C. 713	.	9	12 22.26	− 0.59	+ 0.01	75 17 57.58	+ 3 50.54	+ 3 43.8	2 12 21.68	− 4.21	126 31 53.1	+12.0
	39	Saturn I, N.	.	6	19 34.35	− 0.22	+ 0.01	27 35 55.92	+ 5 17.28	+ 31.2	2 19 34.14	+ 0.69	78 48 5.6	. .
	40	Saturn II, S.	.	5	19 35.74	− 0.22	+ 0.01	27 35 55.92	+ 5 35.87	+ 31.2	2 19 35.53	− 0.70	78 48 24.2	. .
	41	Neptune	.	9	49 48.03	− 0.20	+ 0.02	24 23 53.75	+ 4 40.01	+ 27.1	2 49 47.85	. .	75 35 22.1	. .
	42	B. A. C. 930	.	9	52 59.23	− 0.61	+ 0.02	77 25 56.88	+ 3 20.24	+ 4 22.2	2 52 58.64	− 4.20	128 40 0.5	+10.0
	43	Jupiter I, N.	.	6	3 37.97	− 0.19	+ 0.02	22 41 51.22	+ 3 57.81	+ 25.0	3 3 37.80	+ 1.69	73 52 35.2	. .
	44	Jupiter II, S.	.	5	3 41.36	− 0.19	+ 0.02	22 41 51.22	+ 4 45.07	+ 25.0	3 3 41.19	− 1.70	73 53 22.5	. .
	45	B. A. C. 1005	.	9	8 45.28	− 0.53	+ 0.03	69 1 53.48	+ 3 58.93	+ 2 34.6	3 8 44.78	− 4.37	120 14 48.2	+10.7
	46	B. A. C. 1021	.	9	11 57.97	− 0.58	+ 0.03	74 53 54.12	+ 3 46.48	+ 3 38.1	3 11 57.42	− 4.26	126 7 39.9	+ 9.6
	47	Bertha	.	6	19 14.17	− 0.06	+ 0.03	7 39 52.60	+ 6 16.95	+ 8.1	3 19 14.14	. .	58 52 38.9	− 0.5
	48	δ Persei	.	9	34 34.57	+ 0.14	− **0.01**	351 25 56.30	+ 3 14.00	− 8.9	3 34 34.74	. .	42 35 22.6	+ 1.3
	49	η Tauri	.	9	40 30.67	− 0.13	+ **0.02**	15 3 50.62	+ 5 6.01	+ 16.1	3 40 30.57	. .	66 15 33.9	− 0.9

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
10	30.24	35.5	31.3
12	30.24	35.3	30.7
24	30.24	34.3	30.2
27	30.24	33.9	30.2
28	29.84	40.5	39.0

For summary of the constants of reduction see page 3.

ZENITH-POINT CORR.

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22, 47. One bisection. 1 to 27 + 40.28

15, 24, 25. Three bisections. 30 to 49 + 39.69

14, 17, 18, 41. Four bisections.

24. Barometer and thermometers read at 6ʰ 20ᵐ.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
1	− 0.8	+ 23.4	. .	+ 22.6
15	−16 26.3	− 15 13.6	. .	− 31 39.9
26	− 3.2	− 8.8	. .	− 12.0
27	− 3.2	+ 8.9	0.0	+ 5.7
39	− 0.5	+ 9.3	. .	+ 8.8
40	− 0.5	− 9.3	. .	− 9.8
41	− 0.1	. .	. .	− 0.1
43	− 0.8	+ 23.6	. .	+ 22.8
44	− 0.8	− 23.7	. .	− 24.5

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
Dec.					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
7, E.	1	ζ Persei		9	46 45.44	− 0.06	+ 0.10	7 17 56.22	+ 3 34.98	+ 7.7	3 46 45.42	. .	58 28 0.1	− 0.4
	2	γ¹ Eridani		9	52 33.83	− 0.40	+ 0.03	52 39 51.85	+ 3 12.35	+ 1 18.1	3 52 33.47	. .	103 50 43.5	+ 0.5
8, R.	3	ε Bootis		9	39 48.81	− 0.02	+ 0.64	11 13 54.35	+ 5 16.30	+ 12.1	14 39 49.30	. .	62 25 43.9	− 1.6
	4	β Ursæ Minoris		9	50 57.06	+ 1.27	+ 0.52	324 11 55.80	+ 4 24.74	− 43.3	14 50 58.85	. .	15 21 58.4	+ 2.0
	5	β Bootis		9	57 28.41	+ 0.13	+ 0.49	357 57 59.92	+ 4 23.89	− 2.1	14 57 29.06	. .	49 8 42.9	− 0.6
	6	β Libræ		9	10 38.94	− 0.29	+ 0.49	47 43 58.52	+ 5 18.85	+ 1 6.3	15 10 39.17	. .	98 56 44.9	− 0.1
	7	α Serpentis		9	38 26.56	− 0.17	+ 0.46	31 59 57.62	+ 5 11.96	+ 37.6	15 38 26.92	. .	83 12 8.4	+ 1.1
	8	● Venus II, N.		9	53 2.10	− 0.35	+ 0.53	58 1 54.65	+ 4 59.49	+ 1 36.0	15 53 2.28	− 0.38	109 14 51.3	. .
	9	Mercury II, C.		9	3 3.43	− 0.35	+ 0.53	58 39 56.12	+ 4 37.34	+ 1 38.3	16 3 3.61	− 0.19	109 52 33.0	. .
9	10	Sun I, S.		9	5 53.30	− 0.36	+ 0.55	61 58 1.12	+ 3 55.86	+ 1 51.4	17 5 53.49	+70.90	113 10 9.6	. .
	11	Sun II, N.		9	8 15.10	− 0.36	+ 0.55	61 25 59.18	+ 3 27.31	+ 1 48.9	17 8 15.29	−70.90	112 37 36.6	. .
	12	α Lyræ		9	32 54.78	+ 0.15	+ 0.58	0 9 51.05	+ 3 8.31	+ 0.2	18 32 55.50	. .	51 19 20.8	− 1.1
	13	β Lyræ		9	45 41.83	+ 0.09	+ 0.59	5 35 56.12	+ 3 51.77	+ 5.8	18 45 42.49	. .	56 46 14.9	+ 0.2
	14	σ Sagittarii		4	47 56.22	− 0.37	+ 0.55	65 14 . .	. . .	. .	18 47 56.42	. .	116 26 . .	. .
	15	ζ Aquilæ		9	59 58.18	− 0.08	+ 0.56	25 8 0.78	+ 3 43.01	+ 27.6	18 59 58.67	. .	76 18 32.6	+ 1.9
	16	δ Draconis		9	12 27.24	+ 0.88	+ 0.58	331 21 55.68	+ 4 45.33	− 31.9	19 12 28.70	. .	22 32 30.3	− 0.3
	17	Weisse 938		8	54 2.88	− 0.30	+ 0.63	48 31 55.35	+ 3 18.18	+ 1 7.7	1 54 3.21	− 4.55	99 42 42.4	+19.2
	18	α Draconis, S. P.		7	1 10.30	− 1.13	+ 0.63	283 49 52.15	+ 3 54.19	− 3 57.2	14 1 9.80	. .	334 56 10.3	+ 1.7
	19	ξ¹ Ceti		3	6 46.06	− 0.19	+ 0.69	30 31 55.45	+ 3 30.04	+ 35.3	2 6 46.51	. .	81 42 22.0	+ 1.1
	20	ξ² Ceti		3	21 54.60	− 0.19	+ 0.59	30 53 54.78	+ 3 13.37	+ 35.8	2 21 55.06	. .	82 4 5.2	− 0.1
	21	γ Ceti		5	37 12.55	− 0.22	+ 0.71	36 3 56.55	+ 4 40.00	+ 43.6	2 37 12.99	. .	87 15 41.4	+ 1.0
	22	Lalande 5284	8.0	7	45 41.77	+ 0.03	+ 0.67	3 39 52.95	+ 4 6.24	+ 3.9	2 45 42.47	− 6.08	54 50 24.3	+24.8
	23	Neptune		9	49 36.54	− 0.14	+ 0.68	24 23 56.62	+ 5 20.59	+ 27.2	2 49 37.08	. .	75 36 5.6	. .
	24	α Ceti		9	56 8.19	− 0.22	+ 0.64	35 11 56.12	+ 3 24.62	+ 42.2	2 56 8.65	. .	86 22 24.1	+ 0.8
	25	Jupiter I, S.		5	2 48.14	− 0.13	+ 0.69	22 43 55.42	+ 5 35.33	+ 25.1	3 2 48.70	+ 1.49	73 56 17.1	. .
	26	Jupiter II, N.		3	2 51.13	− 0.13	+ 0.69	22 43 55.42	+ 4 53.21	+ 25.1	3 2 51.69	− 1.50	73 55 34.9	. .
	27	α Persei		9	16 56.37	+ 0.22	+ 0.70	349 23 53.42	+ 3 23.91	− 11.1	3 16 57.29	. .	40 33 27.4	0.0
10, W.	28	Polaris		6	15 55.75	+17.76	+ 0.99	310 9 50.00	+ 3 56.04	− 1 12.8	1 16 14.50	. .	1 18 54.4	+ 2.9
	29	Lacaille 459		9	29 26.69	− 0.68	+ 0.99	74 43 51.82	+ 3 6.42	+ 3 43.5	1 29 27.00	− 4.12	125 57 2.9	+12.9
	30	B. A. C. 528		9	36 52.16	− 0.70	+ 0.99	76 11 52.40	+ 3 26.19	+ 4 7.6	1 36 52.45	− 4.11	127 25 47.4	+12.3
	31	ο Piscium		6	39 10.79	− 0.31	+ 0.95	30 16 . .	. . .	. . .	1 39 11.47	. .	81 26 . .	. .
	32	B. A. C. 553		9	42 39.96	− 0.70	+ 1.00	76 29 51.92	+ 4 35.53	+ 4 13.5	1 42 40.26	− 4.12	127 45 2.1	+12.0
	33	β Arietis		9	48 8.35	− 0.22	+ 1.04	18 35 53.05	+ 3 25.17	+ 20.8	1 48 9.13	. .	69 46 0.2	+ 0.3
	34	B. A. C. 627		9	55 59.92	− 0.62	+ 1.00	69 21 48.90	+ 3 21.16	+ 2 42.9	1 56 0.30	− 4.24	120 34 14.2	+13.4
	35	α Arietis		9	0 32.50	− 0.20	+ 0.99	15 55 54.82	+ 3 2.78	+ 17.7	2 0 33.30	. .	67 5 36.5	+ 0.1
	36	B. A. C. 713		6	12 21.24	− 0.69	+ 1.00	75 17 54.98	+ 3 48.32	+ 3 52.3	2 12 21.55	− 4.17	126 31 56.8	+11.3
	37	Saturn I, N.		6	18 58.47	− 0.29	+ 1.00	27 39 51.50	+ 3 32.85	+ 32.4	2 18 59.18	+ 0.63	78 50 18.0	. .
	38	Saturn II, S.		5	18 59.74	− 0.29	+ 1.00	27 39 51.50	+ 3 51.84	+ 32.4	2 19 0.45	− 0.64	78 50 36.9	. .
	39	ξ² Ceti		9	21 54.27	− 0.32	+ 1.05	30 53 51.52	+ 3 16.87	+ 37.0	2 21 54.95	. .	82 4 6.6	+ 1.2
	40	B. A. C. 788		9	28 13.32	− 0.67	+ 1.00	73 55 54.15	+ 4 27.37	+ 3 32.2	2 28 13.65	− 4.22	125 10 14.9	+11.0
	41	B. A. C. 872 (R)		.	. . . .	. .	. .	167 45 54.38	+ 7 12.48	− 13.2	. . . .	. .	63 13 27.5	+23.7
	42	B. A. C. 872		.	. . . .	. .	. .	12 1 48.32	+ 5 7.15	+ 13.2	2 43 . .	. .	63 13 29.9	+23.7
	43	O. Arg. N. 3304		5	50 31.30	+ 1.12	+ 1.00	324 23 52.85	+ 3 55.15	− 44.0	2 50 33.42	−12.64	15 33 25.2	+28.2
	44	α Ceti		9	56 8.00	− 0.35	+ 0.96	35 11 51.00	+ 3 28.27	+ 43.6	2 56 8.65	. .	86 22 24.1	− 0.6
	45	Jupiter I, N.		6	2 23.90	− 0.25	+ 1.00	22 45 53.05	+ 4 15.11	+ 26.0	3 2 24.65	+ 1.60	73 56 55.4	. .
	46	Jupiter II, S.		5	2 27.10	− 0.25	+ 1.00	22 45 53.05	+ 5 2.04	+ 26.0	3 2 27.85	− 1.60	73 57 42.3	. .
	47	B. A. C. 1003		9	8 25.63	− 0.68	+ 1.00	75 9 49.02	+ 3 15.25	+ 3 50.2	3 8 25.95	− 4.24	126 23 15.7	+ 8.9
	48	Ariadne		9	54 50.99	− 0.21	+ 1.01	16 51 51.52	+ 3 57.66	+ 18.8	3 54 51.79	. .	68 2 29.2	− 1.6
	49	IV, I¹		6	10 30.60	− 0.61	+ 1.01	67 59 50.28	+ 4 15.85	+ 2 32.5	4 10 31.00	− 4.44	119 12 59.8	+ 6.5
	50	IV, I²		5	10 31.85	− 0.61	+ 1.01	67 59 50.28	+ 5 47.00	+ 2 32.7	4 10 32.25	− 4.44	119 14 31.2	+ 6.5

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
2	29.86	38.0	37.0
3	30.10	37.1	34.7
7	30.11	40.0	37.8
9	30.10	41.7	40.9
11	30.09	43.2	42.3
12	30.08	48.3	46.3
16	30.09	50.4	48.1
17	30.11	42.6	39.6
26	30.11	41.8	39.9
28	30.44	32.8	29.9
36	30.46	32.7	30.4
47	30.48	32.1	30.3

For summary of the constants of reduction see page 3.

20, 39, 40, 41. One bisection.
28. Three bisections.
3, 4, 9, 15, 48. Four bisections.

ZENITH-POINT CORR.

	″
1 to 2	+ 39.69
3 to 16	+ 38.84
17 to 27	+ 39.46
28 to 50	+ 39.86

7. Barometer and thermometers read at $15^h\ 47^m$.
9. Barometer and thermometers read at $16^h\ 35^m$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
8	− 4.7	+ 5.4	. 0.0	+ 0.7
9	− 5.8	. .	− 0.1	− 5.9
10	− 7.9	− 16 16.5	. .	− 16 24.4
11	− 7.9	+ 16 16.5	. .	+ 16 8.6
23	− 0.1	. .	. .	− 0.1
25	− 0.8	− 21.1	. .	− 21.9
26	− 0.8	+ 21.1	. .	+ 20.3
37	− 0.5	+ 9.4	. .	+ 8.9
38	− 0.5	− 9.5	. .	− 10.0
45	− 0.8	+ 23.4	. .	+ 22.6
46	− 0.8	− 23.5	. .	− 24.3

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
Dec.					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
0, W.	1	Thetis		9	19 23.43	− 0.27	+ 1.01	24 29 52.48	+ 4 24.05	+ 28.3	4 19 24.17	. .	75 41 6.0	− 2.0
	2	Weisse 548		9	27 36.69	− 0.35	+ 1.01	35 37 56.28	+ 3 1.56	+ 44.4	4 27 37.35	− 5.28	86 48 3.4	+ 8.1
	3	α Tauri		9	29 10.50	− 0.25	+ **1.05**	22 31 49.68	+ 5 10.32	+ 25.8	4 29 11.26	. .	73 43 47.0	+ 2.9
	4	D. M. + 1°, 808		6	37 57.53	− 0.36	+ 1.01	36 56 . .	. .	. .	4 37 58.18	− 5.25	88 9 . .	. .
	5	D. M. + 1°, 809		5	38 0.80	− 0.36	+ 1.01	36 56 . .	. .	. .	4 38 1.45	− 5.25	88 9 . .	. .
	6	Lalande 9270		9	50 4.56	− 0.36	+ 1.01	36 57 55.78	+ 3 40.24	+ 46.7	4 50 5.21	− 5.26	88 8 43.9	+ 5.5
	7	11 Orionis		9	57 51.12	− 0.26	+ **1.03**	23 33 50.92	+ 5 3.07	+ 27.1	4 57 51.87	. .	74 45 42.3	+ 0.2
	8	Weisse (2) 1421[1]		6	2 22.25	− 0.15	+ 1.02	10 55 51.75	+ 4 50.16	+ 12.1	5 2 23.12	− 6.29	62 7 15.2	+ 4.6
	9	Weisse (2) 1421[2]		5	2 22.67	− 0.15	+ 1.02	10 55 51.75	+ 4 39.52	+ 12.1	5 2 23.54	− 6.29	62 7 4.6	+ 4.6
	10	B. A. C. 1618		8	7 54.44	− 0.44	+ 1.02	47 7 53.65	+ 1 57.34	+ 1 6.8	5 7 55.02	− 4.98	98 17 19.0	+ 3.2
	11	β Orionis		9	8 53.60	− 0.44	+ **0.97**	47 7 53.65	+ 5 1.84	+ 1 7.0	5 8 54.18	. .	98 20 23.7	+ 1.6
	12	β Tauri		9	18 51.67	− 0.15	+ **1.01**	10 17 53.55	+ 5 13.19	+ 11.4	5 18 52.54	. .	61 29 39.3	+ 0.3
	13	B. A. C. 1662		7	24 34.61	+ 4.42	+ 1.02	313 41 49.82	+ 5 0.74	− 1 4.7	5 24 40.05	−39.81	4 52 7.1	− 0.2
	14	B. A. C. 1849 (R)		.	. . . .	. .	. .	200 53 51.05	+ 3 36.79	+ 23.8	. . . .	. .	30 8 29.6	− 3.2
	15	B. A. C. 1849		.	. . . .	. .	. .	338 57 50.60	+ 4 45.36	− 23.8	5 44 . .	. .	30 8 33.4	− 3.2
5, E.	16	ε Piscium		6	56 46.67	+ 0.37	+ **3.47**	31 34 . .	. .	. . .	0 56 50.58	. .	82 45 . .	. .
	17	B. A. C. 302		9	58 56.29	− 0.58	+ 3.54	336 41 47.80	+ 4 10.93	− 26.3	0 58 59.25	− 6.21	27 51 53.6	+41.0
	18	β Andromedæ		5	3 5.60	+ 0.06	+ **3.71**	3 49 44.50	+ 3 57.82	+ 4.2	1 3 9.20	. .	55 0 7.7	+ 3.8
	19	Polaris		7	16 27.26	−22.82	+ 3.55	310 9 42.88	+ 4 0.63	− 1 12.2	1 16 7.99	. .	1 18 52.5	+ 1.9
	20	D. M. + 8°, 246	9.0	7	27 41.03	+ 0.36	+ 3.56	30 23 48.58	+ 5 54.16	+ 36.0	1 27 44.95	− 4.67	81 36 39.9	+25.6
	21	D M. + 8°, 247		8	27 48.56	+ 0.36	+ 3.56	30 23 48.58	+ 4 30.22	+ 36.0	1 27 52.48	− 4.67	81 35 15.0	+25.6
	22	o Piscium		9	39 7.48	+ 0.36	+ **3.55**	30 15 47.25	+ 3 21.45	+ 35.8	1 39 11.41	. .	81 26 5.7	− 0.1
	23	B. A. C. 553		6	42 35.77	+ 0.86	+ 3.58	76 29 44.72	+ 4 49.47	+ 4 11.8	1 42 40.21	− 4.04	127 45 7.2	+11.2
	24	β Arietis		9	48 5.32	+ 0.24	+ **3.57**	18 35 48.52	+ 3 29.87	+ 20.7	1 48 9.14	. .	69 46 0.3	+ 0.4
	25	ξ[1] Ceti		9	6 42.64	+ 0.35	+ **3.53**	30 31 45.70	+ 3 39.06	+ 36.2	2 6 46.59	. .	81 42 22.2	+ 0.9
	26	Saturn I, N.		6	19 3.80	+ 0.32	+ 3.61	27 41 45.32	+ 4 45.15	+ 32.3	2 19 7.73	+ 0.68	78 53 24.0	. .
	27	Saturn II, S.		5	19 5.16	+ 0.32	+ 3.61	27 41 45.32	+ 5 2.91	+ 32.3	2 19 9.09	− 0.68	78 53 41.7	. .
	28	B. A. C. 872 (R)		.	. . . .	. .	. .	167 45 49.22	+ 7 17.20	− 13.2	. . . .	. .	63 13 28.0	+23.9
	29	B. A. C. 872		.	. . . .	. .	. .	12 1 44.72	+ 5 10.24	+ 13.2	2 43 . .	. .	63 13 29.4	+23.9
	30	Neptune		9	49 2.88	+ 0.29	+ 3.63	24 27 50.92	+ 3 27.35	+ 28.0	2 49 6.80	. .	75 38 7.5	. .
	31	B. A. C. 930		9	52 54.02	+ 0.86	+ 3.64	77 25 48.62	+ 3 19.62	+ 4 30.6	2 52 58.52	− 4.13	128 40 0.0	+ 8.0
	32	Jupiter I, N.		6	0 31.12	+ 0.27	+ 3.64	22 51 44.52	+ 4 48.28	+ 26.0	3 0 35.03	+ 1.68	74 3 20.0	. .
	33	Jupiter II, S.		5	0 34.48	+ 0.27	+ 3.64	22 51 44.52	+ 5 33.80	+ 26.0	3 0 38.39	− 1.68	74 4 5.5	. .
	34	B. A. C 1060		9	18 58.02	+ 0.78	+ 3.66	71 53 48.10	+ 4 27.51	+ 3 6.8	3 19 2.46	− 4.29	123 7 43.6	+ 7.7
	35	B. A. C. 1082		9	22 56.64	+ 0.82	+ 3.66	74 51 46.52	+ 3 47.27	+ 3 44.7	3 23 1.12	− 4.23	126 5 39.7	+ 7.0
	36	η Tauri		9	40 26.71	+ 0.19	+ **3.69**	15 3 44.82	+ 5 13.72	+ 16.6	3 40 30.58	. .	66 15 36.3	+ 1.6
	37	ζ Persei		9	46 41.64	+ 0.10	+ **3.76**	7 17 49.40	+ 3 41.74	+ 7.9	3 46 45.42	. .	58 28 0.2	+ 0.3
	38	γ[1] Eridani		9	52 29.31	+ 0.56	+ **3.60**	52 39 48.25	+ 3 16.12	+ 1 20.6	3 52 33.56	. .	103 50 46.2	+ 1.7
	39	B. A. C. 1287 (R)		.	. . . .	. .	. .	189 7 46.85	+ 4 58.59	+ 10.0	. . . .	. .	41 53 25.8	+15.3
	40	B. A. C. 1287		.	. . . .	. .	. .	350 43 45.22	+ 3 31.33	− 10.0	4 6 . .	. .	41 53 27.8	+15.3
	41	θ Virginis		9	3 46.62	+ 0.50	+ **3.71**	43 41 50.12	+ 5 24.10	+ 59.8	13 3 50.84	. .	94 54 35.2	+ 2.0
	42	Polaris, S. P.		7	15 40.54	+23.30	+ 3.72	307 31 48.80	+ 4 23.32	− 1 20.9	1 16 7.56	. .	358 41 12.4	+ 2.9
	43	α Virginis		9	18 54.67	+ 0.55	+ **3.76**	49 19 46.12	+ 5 23.36	+ 1 12.7	13 18 58.97	. .	100 32 43.4	+ 1.5
	44	Moon II, S.		9	29 55.58	+ 0.58	+ 3.77	53 1 45.88	+ 4 44.13	+ 1 23.0	13 29 59.93	−65.44	104 14 14.2	. .
	45	η Bootis		9	48 59.83	+ 0.29	+ **3.81**	19 49 45.72	+ 4 18.03	+ 22.6	13 49 3.93	. .	71 0 47.6	+ 2.7
S.	46	β Bootis		9	57 25.16	+ 0.10	+ **3.94**	357 57 51.72	+ 4 34.56	− 2.1	14 57 29.22	. .	49 8 45.4	− 0.4
	47	β Libræ		9	10 34.71	+ 0.67	+ **3.93**	47 43 49.42	+ 5 26.39	+ 1 8.5	15 10 39.34	. .	98 56 45.5	− 0.4
	48	γ[2] Ursæ Minoris		9	20 48.57	− 1.16	+ 3.97	326 33 47.80	+ 5 28.64	− 40.8	15 20 51.38	. .	17 44 56.8	− 0.7
	49	α Cor. Bor.		9	29 36.51	+ 0.31	+ **4.05**	11 41 46.18	+ 4 57.79	+ 12.9	15 29 40.79	. .	62 53 18.1	− 1.4
	50	α Serpentis		9	38 22.52	+ 0.53	+ **3.94**	31 59 47.92	+ 5 19.40	+ 38.9	15 38 27.02	. .	83 12 7.4	− 1.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
3	30.49	31.4	29.2
5	30.49	30.2	26.7
9	30.44	36.0	33.5
8	30.45	33.5	31.6
5	30.54	28.2	26.0
6	30.57	30.9	28.1

For summary of the constants of reduction see page 3.

10, 21, 28, 29. One bisection.
13, 19, 42. Three bisections.
44. Five bisections.

ZENITH-POINT CORR.

″

1 to 15 + 39.86
17 to 40 + 44.77
41 to 45 + 46.84
46 to 50 + 42.84

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
26	− 0.5	+ 8.8	. .	+ 8.3
27	− 0.5	− 8.9	. .	− 9.4
30	− 0.1	. .	. .	− 0.1
32	− 0.8	+ 22.7	. .	+ 21.9
33	− 0.8	− 22.8	. .	− 23.6
44	−44 53.3	− 15 22.6	. .	− 60 15.9

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
Dec.					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
15, S.	1	Mercury C.		9	47 13.94	+ 0.83	+ 3.98	61 11 49.80	+ 4 42.95	+ 1 52.3	16 47 18.75	— 0.01	112 24 46.3	. .
16	2	Sun I, N.		9	36 43.90	+ 0.85	+ 3.98	61 51 47.38	+ 5 16.12	+ 1 55.0	17 36 48.73	+71.22	113 5 19.7	. .
	3	Sun II, S.		5	39 6.34	+ 0.85	+ 3.98	62 23 47.72	+ 5 48.50	+ 1 57.6	17 39 11.17	—71.22	113 37 55.0	. .
	4	α Lyræ		9	32 51.36	+ 0.18	+ **3.96**	0 9.46.30	+ 3 17.24	+ 0.2	18 32 55.53	. .	51 19 24.9	+ 1.1
	5	β Lyræ		9	45 38.22	+ 0.26	+ **4.03**	5 36 . .	. . .	. .	18 45 42.47	. .	56 46 . .	. .
	6	ζ Aquilæ		9	59 54.20	+ 0.48	+ **3.99**	25 7 55.10	+ 3 48.51	+ 28.8	18 59 58.67	. .	76 18 33.6	+ 1.6
	7	δ Leonis		9	7 45.83	+ 0.33	+ **4.77**	17 37 52.35	+ 5 26.58	+ 19.9	11 7 50.90	. .	68 50 0.0	— 1.2
	8	δ Crateris		9	13 22.18	+ 0.70	+ **4.74**	52 55 51.60	+ 4 49.16	+ 1 22.5	11 13 27.62	. .	104 8 24.5	— 1.1
	9	β Leonis		9	42 58.10	+ 0.40	+ **4.72**	23 33 47.45	+ 5 39.87	+ 27.3	11 43 3.24	. .	74 46 15.8	— 1.0
	10	α^2 Can. Ven.		9	50 25.69	+ 0.10	+ **4.73**	359 51 49.38	+ 4 44.92	— 0.1	12 50 30.53	. .	51 2 55.4	0.0
	11	B. A. C. 4470		5	15 36.79	+ 0.54	+ 4.75	36 5 52.62	+ 4 36.86	+ 45.5	13 15 42.08	— 3.36	87 17 36.2	—23.2
	12	Polaris, S. P.		5	15 38.38	+26.31	+ 4.75	307 31 46.55	+ 4 23.20	— 1 20.6	1 16 9.44	. .	358 41 10.4	+ 0.7
	13	ζ Virginis		9	28 35.87	+ 0.57	+ **4.67**	38 47 53.58	+ 4 29.33	+ 50.1	13 28 41.19	. .	89 59 34.2	— 0.6
	14	η Bootis		9	48 58.80	+ 0.37	+ **4.79**	19 49 47.18	+ 4 14.18	+ 22.5	13 49 3.92	. .	71 0 45.1	— 0.1
	15	α Bootis		9	10 11.49	+ 0.36	+ **4.78**	18 59 47.18	+ 5 47.62	+ 21.5	14 10 16.60	. .	70 12 17.5	+ 0.3
	16	Moon II		9	23 27.48	+ 0.75	+ 4.75	56 35 . .	. . .	. .	14 23 32.98	—67.81	106 59 . .	. .
R.	17	β Libræ		9	10 34.01	+ 0.64	+ **4.68**	47 43 49.35	+ 5 25.51	+ 1 7.8	15 10 39.31	. .	98 56 43.9	— 2.2
	18	γ^2 Ursæ Minoris		9	20 48.03	— 0.83	+ 4.66	326 33 49.62	+ 5 28.32	— 40.4	15 20 51.86	. .	17 44 58.7	+ 0.8
	19	α Cor. Bor.		9	29 35.88	+ 0.34	+ **4.67**	11 41 47.20	+ 4 57.70	+ 12.8	15 29 40.89	. .	62 53 18.9	— 0.9
	20	α Serpentis		9	38 21.81	+ 0.51	+ **4.69**	31 59 49.30	+ 5 20.01	+ 38.4	15 38 26.99	. .	83 12 8.9	— 0.1
	21	β Herculis		9	25 3.09	+ 0.41	+ **4.66**	17 3 49.90	+ 4 38.63	+ 18.8	16 25 8.20	. .	68 15 8.5	— 0.6
	22	Venus II, C.		9	34 55.00	+ 0.76	+ 4.71	60 5 53.28	+ 5 28.11	+ 1 45.6	16 35 0.47	— 0.38	111 19 28.2	. .
	23	Mercury II, C.		9	53 44.87	+ 0.78	+ 4.72	61 29 48.25	+ 4 35.83	+ 1 51.4	16 53 50.37	— 0.18	112 42 36.7	. .
17	24	Sun I, S.		9	41 9.23	+ 0.80	+ 4.75	62 25 49.65	+ 5 49.94	+ 1 55.3	17 41 14.78	+71.10	113 39 56.1	. .
	25	Sun II, N.		9	43 31.43	+ 0.80	+ 4.75	61 53 45.60	+ 5 22.29	+ 1 52.7	17 43 36.98	—71.10	113 7 21.8	. .
	26	δ Draconis		9	12 24.56	— 0.39	+ 4.80	331 21 48.88	+ 4 55.17	— 32.5	19 12 28.97	. .	22 32 32.7	— 0.3
	27	δ Aquilæ		9	19 27.14	+ 0.58	+ **4.80**	35 55 53.50	+ 4 5.34	+ 43.4	19 19 32.52	. .	87 7 3.4	0.0
	28	γ Aquilæ		9	40 33.21	+ 0.54	+ **4.85**	28 29 48.62	+ 3 34.98	+ 32.5	19 40 38.57	. .	79 40 17.3	+ 1.4
	29	α Aquilæ		9	44 55.84	+ 0.55	+ **4.81**	30 15 53.65	+ 3 35.36	+ 34.9	19 45 1.21	. .	81 26 25.1	+ 0.5
	30	γ Cygni		9	17 53.96	+ 0.26	+ **4.82**	358 55 51.52	+ 4 48.84	— 1.0	20 17 59.06	. .	50 7 0.6	+ 1.8
	31	B. A. C. 79 (R)			. . . .	. .	. .	192 23 46.60	+ 4 38.81	+ 13.4	. . . .	. .	38 37 42.4	+41.4
	32	B. A. C. 79			. . . .	. .	. .	347 27 52.52	+ 3 44.60	— 13.4	0 18 . .	. .	38 37 44.9	+41.4
	33	12 Ceti		9	23 56.51	+ 0.49	+ **5.07**	43 25 51.92	+ 3 21.05	+ 57.3	0 24 2.09	. .	94 36 31.5	+ 1.6
	34	κ Draconis, S. P.		5	28 18.51	+ 1.93	+ 5.10	289 17 52.75	+ 4 34.49	— 2 50.5	12 28 25.54	. .	340 25 57.9	+ 2.1
	35	β Ceti		9	37 35.28	+ 0.64	+ **5.12**	57 25 51.55	+ 4 19.86	+ 1 34.8	0 37 41.02	. .	108 38 7.4	+ 1.9
	36	32^2 Camelop., S. P.		7	47 59.73	+ 5.58	+ 5.11	302 54 . .	. . .	. .	12 48 10.42	. .	354 3 . .	. .
	37	O. Arg. N. 1035	5.5	9	57 3.72	— 0.26	+ 5.12	346 59 48.12	+ 1 35.15	— 14.0	0 57 8.58	— 5.47	38 7 30.5	+ 39.5
	38	O. Arg. N. 1047	9.2	3	57 24.87	— 0.26	+ 5.12	346 59 48.12	+ 3 58.71	— 13.9	0 57 29.73	— 5.47	38 9 54.1	+39.5
	39	B. A. C. 377		9	9 39.08	— 0.06	+ 5.12	356 29 47.20	+ 4 39.61	— 3.6	1 9 44.14	— 5.28	47 40 44.4	+36.5
	40	Polaris		6	16 27.17	—23.17	+ 5.13	310 9 42.80	+ 3 59.75	— 1 11.7	1 16 9.13	. .	1 18 52.1	+ 1.9
	41	B. A. C. 466		9	27 34.56	+ 0.87	+ 5.14	76 11 47.68	+ 6 13.82	+ 4 5.1	1 27 40.57	— 3.99	127 28 27.8	+11.5
	42	ο Piscium		9	39 5.87	+ 0.35	+ **5.16**	30 15 50.58	+ 3 19.32	+ 35.6	1 39 11.37	. .	81 26 6.7	+ 0.8
	43	B. A. C. 553		9	42 34.06	+ 0.87	+ 5.16	76 29 47.12	+ 4 48.89	+ 4 10.3	1 42 40.09	— 4.01	127 45 7.5	+10.9
	44	B. A. C. 575		9	47 45.06	— 0.03	+ 5.16	358 41 47.08	+ 4 17.53	— 1.3	1 47 50.19	— 5.68	49 52 24.5	+32.8
	45	Weisse 938	9.4	9	53 57.54	+ 0.53	+ 5.17	48 31 46.70	+ 3 26.14	+ 1 9.0	1 54 3.24	— 4.48	99 42 43.0	+18.2
	46	Saturn I, S.		6	17 44.17	+ 0.33	+ 5.18	27 41 45.80	+ 6 1.94	+ 32.1	2 17 49.68	+ 0.64	78 54 41.0	. .
	47	Saturn II, N.		5	17 45.46	+ 0.33	+ 5.18	27 41 45.80	+ 5 43.27	+ 32.1	2 17 50.97	— 0.65	78 54 22.4	. .
	48	B. A. C. 818		9	33 34.91	+ 0.88	+ 5.20	77 15 50.25	+ 3 29.67	+ 4 25.6	2 33 40.99	— 4.08	128 30 6.7	+ 8.6
	49	ο Arietis		9	37 59.27	+ 0.29	+ 5.20	23 59 47.45	+ 4 37.55	+ 27.3	2 38 4.76	— 5.24	75 11 13.5	+21.6
	50	B. A. C. 886		9	45 24.14	+ 0.84	+ 5.20	75 5 51.55	+ 4 5.39	+ 3 47.0	2 45 30.18	— 4.15	126 20 5.1	+ 8.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
1	30.58	33.2	31.1
3	30.58	34.6	33.3
4	30.54	36.0	34.5
6	30.54	37.8	35.0
8	30.42	27.8	24.9
10	30.42	28.2	25.0
13	. .	. .	25.5
14	. .	. .	26.1
15	. .	. .	27.1
16	30.42	29.2	27.2
17	30.43	32.7	30.7
20	30.43	36.5	34.8
21	30.43	37.8	36.3
23	30.42	38.3	38.5
25	30.40	40.7	40.8
26	30.37	45.4	44.2
29	30.37	47.2	44.5
30	30.36	45.5	44.7
34	30.32	39.8	37.2
41	30.33	37.5	34.6
47	30.32	36.0	33.1

For summary of the constants of reduction see page 3.

18, 19, 22, 23, 27, 30, 40. } Four bisections.

ZENITH-POINT CORR.

″

1 to 6 + 42.84

7 to 15 + 44.41

17 to 30 + 43.97

31 to 50 + 44.89

20. Barometer and thermometers read at 16^h 10^m.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
1	— 5.6	. . .	0.0	— 5.6
2	— 7.9	+ 16 17.6	. .	+ 16 9.7
3	— 8.0	— 16 17.6	. .	— 16 25.6
22	— 4.7	. . .	0.0	— 4.7
23	— 5.6	. . .	0.0	— 5.6
24	— 8.0	— 16 17.1	. .	— 16 25.1
25	— 7.9	+ 16 17.1	. .	+ 16 9.2
46	— 0.5	— 9.3	. .	— 9.8
47	— 0.5	+ 9.3	. .	+ 8.8

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
Dec. 7, R.	1	Neptune		9	48 51.99	+ 0.28	+ 5.21	24 27 53.32	+ 3 59.77	+ 27.9	2 48 57.48	. .	75 38 42.2	. .
	2	B. A. C. 1021		9	11 51.09	+ 0.84	+ 5.23	74 53 50.68	+ 3 45.68	+ 3 44.1	3 11 57.16	— 4.19	126 7 41.7	+ 7.1
	3	B. A. C. 1060		9	18 56.30	+ 0.79	+ 5.23	71 53 50.68	+ 4 24.82	+ 3 5.9	3 19 2.32	— 4.27	123 7 42.6	+ 7.3
	4	B. A. C. 1082		9	22 54.90	+ 0.84	+ 5.24	74 51 49.02	+ 3 46.28	+ 3 43.7	3 23 0.98	— 4.21	126 5 40.2	+ 6.5
	5	B. A. C. 1121		9	32 15.98	+ 0.75	+ 5.24	68 59 48.12	+ 4 25.30	+ 2 38.7	3 32 21.97	— 4.36	120 13 13.3	+ 7.0
	6	O. Arg. N. 4050		9	37 0.24	— 1.13	+ 5.25	328 19 46.48	+ 4 8.41	— 37.6	3 37 4.36	—11.74	19 29 38.5	+22.3
	7	Piazzi III, 182		6	44 10.29	+ 0.86	+ 5.25	76 43 52.25	+ 4 39.19	+ 4 16.0	3 44 16.40	— 4.20	127 59 8.6	+ 5.0
	8	Piazzi III, 183		5	44 10.55	+ 0.86	+ 5.25	76 43 52.25	+ 4 32.54	+ 4 16.0	3 44 16.66	— 4.20	127 59 2.0	+ 5.0
	9	B. A. C. 1244		9	55 16.50	+ 0.33	+ 5.26	29 9 47.05	+ 3 21.24	+ 34.2	3 55 22.09	— 5.43	80 20 3.7	+12.0
	10	B. A. C. 1247		9	1 14.24	— 4.46	+ 5.27	315 19 44.62	+ 3 51.44	— 1 0.3	4 1 15.05	—28.97	6 28 57.0	+18.4
	11	B. A. C. 1497		9	45 22.00	+ 0.13	+ 5.30	11 7 51.12	+ 3 42.75	+ 12.1	4 45 27.43	— 6.32	62 18 7.2	+ 7.4
	12	Lalande 9270	7.5	9	49 59.64	+ 0.41	+ 5.30	36 57 53.00	+ 3 46.61	+ 46.2	4 50 5.35	— 5.31	88 8 47.0	+ 4.6
	13	Lalande 9484		9	57 12.54	+ 0.13	+ 5.31	11 17 53.45	+ 3 47.04	+ 12.3	4 57 17.98	— 6.33	62 28 14.0	+ 5.6
	14	Weisse (2) 1421[1]		5	2 17.71	+ 0.13	+ 5.31	10 55 52.02	+ 4 50.66	+ 11.9	5 2 23.15	— 6.36	62 7 15.8	+ 4.8
	15	Weisse (2) 1421[2]		5	2 18.19	+ 0.13	+ 5.31	10 55 52.02	+ 4 40.12	+ 11.9	5 2 23.63	— 6.36	62 7 5.2	+ 4.8
	16	Weisse (2) 266	6.2	9	11 55.30	— 0.06	+ 5.32	357 51 48.08	+ 4 8.66	— 2.2	5 12 0.56	— 7.22	49 2 15.7	+ 3.9
	17	β Tauri		9	18 47.11	+ 0.12	+ **5.38**	10 17 50.35	+ 5 17.66	+ 11.2	5 18 52.56	. .	61 29 40.4	+ 1.6
	18	Groom. 966		9	24 1.29	— 1.65	+ 5.33	323 51 47.12	+ 4 53.23	— 44.6	5 24 4.97	. .	15 2 17.0	+ 0.9
	19	ε Orionis		8	30 10.02	+ 0.44	+ **5.31**	40 5 54.35	+ 3 39.92	+ 51.7	5 30 15.80	. .	91 16 47.2	+ 1.9
	20	α Columbæ		9	35 18.72	+ 0.81	+ **5.33**	72 53 50.40	+ 4 50.21	+ 3 17.8	5 35 24.87	. .	124 8 19.6	— 0.3
	21	B. A. C. 1826		8	40 20.26	+ 0.33	+ 5.34	29 19 47.52	+ 4 41.79	+ 34.5	5 40 25.93	— 5.61	80 31 25.0	— 1.2
	22	Anonymous		9	45 59.86	+ 0.16	+ 5.35	13 31 46.85	+ 4 45.01	+ 14.8	5 46 5.37	— 6.26	64 43 7.9	— 1.9
	23	D. M. +14°, 1110	9.0	9	54 4.36	+ 0.28	+ 5.35	23 57 51.85	+ 5 15.99	+ 27.3	5 54 9.99	— 5.80	75 9 56.3	— 3.0
	24	ν Orionis		9	0 46.86	+ 0.28	+ **5.34**	24 1 49.30	+ 4 34.66	+ 27.4	6 0 52.50	. .	75 13 12.6	+ 0.9
	25	22 Camelop.		9	5 51.92	— 1.06	+ 5.36	329 27 54.70	+ 4 54.82	— 36.0	6 5 56.22	. .	20 38 34.7	+ 0.1
	26	δ Ursæ Min., S. P.		7	9 39.90	+ 9.91	+ 5.37	305 27 51.92	+ 3 52.93	— 1 25.6	18 9 55.18	. .	356 36 40.4	— 0.8
	27	δ Geminorum (R)		.	. . . .	. .	. .	163 13 51.02	+ 4 33.75	— 18.4	. . . .	. .	67 48 14.8	+ 0.6
	28	δ Geminorum		.	. . . .	. .	. .	16 35 49.48	+ 5 46.09	+ 18.4	7 13 . .	. .	67 48 15.2	+ 1.0
W.	29	ζ Virginis		.	. . . .	. .	. .	38 47 49.58	+ 4 35.27	+ 49.8	13 29 . .	. .	89 59 35.8	+ 0.8
	30	η Ursæ Majoris (R)		.	. . . .	. .	. .	190 55 46.35	+ 4 16.05	+ 12.0	. . . .	. .	40 6 6.8	— 0.8
	31	η Ursæ Majoris		.	. . . .	. .	. .	348 55 43.80	+ 4 15.68	— 12.0	13 43 . .	. .	40 6 8.7	+ 1.1
	32	η Bootis		.	. . . .	. .	. .	19 49 44.12	+ 4 20.10	+ 22.3	13 49 . .	. .	71 0 47.7	+ 2.3
	33	α Bootis		.	. . . .	. .	. .	18 59 43.08	+ 5 52.92	+ 21.3	14 10 . .	. .	70 12 18.5	+ 1.0
	34	β Ursæ Minoris		.	. . . .	. .	. .	324 11 44.68	+ 4 39.32	— 44.1	14 51 . .	. .	15 22 1.1	+ 1.7
	35	β Bootis		.	. . . .	. .	. .	357 57 48.02	+ 4 37.47	— 2.1	14 57 . .	. .	49 8 44.6	— 1.9
18, E.	36	μ[1] Bootis		9	19 54.91	+ 0.04	+ **6.21**	1 1 49.05	+ 4 27.15	+ 1.2	15 20 1.18	. .	52 12 38.6	+ 0.5
	37	α Cor. Bor.		9	29 34.59	+ 0.14	+ **6.21**	11 41 48.42	+ 4 59.26	+ 12.8	15 29 40.96	. .	62 53 21.7	+ 1.3
	38	α Serpentis		9	38 20.48	+ 0.30	+ **6.28**	31 59 49.60	+ 5 20.37	+ 38.3	15 38 27.01	. .	83 12 9.5	+ 0.1
	39	ε Serpentis		9	44 49.24	+ 0.31	+ **6.21**	33 57 52.88	+ 5 5.44	+ 41.2	15 44 55.78	. .	85 10 0.7	+ 2.2
	40	ε Cor. Bor.		9	52 35.12	+ 0.15	+ **6.26**	11 35 49.48	+ 4 27.56	+ 12.6	15 52 41.50	. .	62 46 50.8	0.0
	41	Venus II, C.		9	45 33.72	+ 0.51	+ 6.23	60 31 48.70	+ 4 39.47	+ 1 47.0	16 45 40.46	— 0.38	111 44 36.4	. .
19	42	Sun I, N.		9	50 0.83	+ 0.54	+ 6.23	61 57 51.68	+ 4 4.27	+ 1 52.4	17 50 7.60	+71.24	113 10 9.6	. .
	43	Sun II, S.		9	52 23.32	+ 0.54	+ 6.23	62 29 44.55	+ 4 45.89	+ 1 55.0	17 52 30.09	—71.25	113 42 46.6	. .
20, S.	44	Saturn I, N.		6	17 18.09	+ 0.20	+ 7.41	27 43 51.98	+ 4 49.11	+ 31.7	2 17 25.70	+ 0.69	78 55 34.0	. .
	45	Saturn II, S.		5	17 19.48	+ 0.20	+ 7.41	27 43 51.98	+ 5 6.34	+ 31.8	2 17 27.09	— 0.70	78 55 51.3	. .
	46	γ Ceti		9	37 5.43	+ 0.25	+ **7.31**	36 3 52.98	+ 4 43.71	+ 44.0	2 37 13.07	. .	87 15 41.9	+ 0.5
	47	B. A. C. 873		9	42 40.40	+ 0.53	+ 7.39	74 47 54.68	+ 4 46.87	+ 3 39.6	2 42 48.32	— 4.11	126 2 42.4	+ 8.0
	48	Jupiter I, S.		6	58 55.10	+ 0.17	+ 7.37	22 57 53.75	+ 3 47.97	+ 25.6	2 59 2.64	+ 1.62	74 8 28.5	. .
	49	Jupiter II, N.		5	58 58.34	+ 0.17	+ 7.37	22 57 53.75	+ 4 33.44	+ 25.6	2 59 5.88	— 1.62	74 9 14.0	. .
	50	ζ Arietis		9	8 1.78	+ 0.12	+ **7.45**	18 11 50.22	+ 5 2.09	+ 19.9	3 8 9.27	. .	69 23 33.4	+ 1.4

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
4	30.31	35.1	31.8
10	30.29	34.2	31.1
16	30.28	34.2	30.7
26	30.27	33.7	30.4
28	30.26	32.7	29.3
29	30.29	29.4	26.7
35	30.31	32.7	31.7
36	30.48	36.5	34.0
43	30.45	43.8	43.8
45	30.27	41.2	38.6

For summary of the constants of reduction see page 3.

39. One bisection.
1, 6, 10, 20, 26, 33, 35, 50. Four bisections.

ZENITH-POINT CORR.

	″
1 to 28	+ 44.89
29 to 35	+ 44.76
36 to 43	+ 43.95
44 to 50	+ 43.91

10. Barometer and thermometers read at $4^h\ 18^m$.
35. Barometer and thermometers read at $15^h\ 19^m$.

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
1	— 0.1	. .	. .	— 0.1
41	— 4.7	. .	0.0	— 4.7
42	— 8.0	+ 16 18.5	. .	+ 16 10.5
43	— 8.0	— 16 18.5	. .	— 16 26.5
44	— 0.5	+ 8.6	. .	+ 8.1
45	— 0.5	— 8.7	. .	— 9.2
48	— 0.8	+ 22.7	. .	+ 21.9
49	— 0.8	— 22.8	. .	— 23.6

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES.	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
Dec.					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
20, S.	1	B. VI. + 33°, 656	.	9	20 51.20	+ 0.02	+ 7.36	5 25 51.92	+ 3 42.80	+ 5.8	3 20 58.58	— 6.22	56 36 1.7	+ 20.7
	2	O. Arg. N. 3875	.	9	24 36.58	— 0.23	+ 7.35	344 17 54.48	+ 1 29.51	— 16.9	3 24 43.70	— 7.94	35 25 28.3	+ 23.5
	3	δ Persei . . .	.	9	34 27.47	— 0.12	+ **7.35**	351 25 52.45	+ 3 16.05	— 9.9	3 34 34.70	. .	42 35 20.7	+ 1.4
	4	ζ Persei . . .	.	9	46 38.10	+ 0.04	+ **7.36**	7 17 53.32	+ 3 36.82	+ 7.8	3 46 45.48	. .	58 27 59.1	— 0.6
	5	γ^1 Eridani . . .	.	9	52 25.82	+ 0.34	+ **7.30**	52 39 50.82	+ 3 16.34	+ 1 19.2	3 52 33.49	. .	103 50 47.6	+ 2.2
23, E.	6	η Tauri . . .	.	9	39 23.04	+ 0.22	+ **7.32**	15 3 48.08	+ 5 9 11	+ 16.2	3 39 30.60	. .	66 15 34.6	0.0
	7	ζ Persei . . .	.	9	46 38.06	+ 0.10	+ **7.34**	7 17 54.38	+ 3 35.81	+ 7.7	3 46 45.50	. .	58 27 59.1	— 0.5
	8	γ^1 Eridani . . .	.	9	52 25.40	+ 0.69	+ **7.36**	52 39 47.42	+ 3 18.95	+ 1 18.3	3 52 33.43	. .	103 50 45.9	0.0
	9	Anonymous . .	12.	7	10 1.60	+ 0.91	+ 7.34	67 59 50.80	+ 6 44.28	+ 2 27.7	4 10 9.85	— 4.42	119 15 24.0	+ 3.2
	10	IV, 1^1 . . .	.	6	10 22.80	+ 0.91	+ 7.34	67 59 50.80	+ 4 26.95	+ 2 27.4	4 10 31.05	— 4.42	119 13 6.4	+ 3.2
	11	IV, 1^2 . . .	.	5	10 23.99	+ 0.91	+ 7.34	67 59 50.80	+ 5 56.76	+ 2 27.6	4 10 32.24	— 4.42	119 14 36.4	+ 3.2
	12	Weisse (2) 421 .	.	6	21 20.13	+ 0.13	+ 7.35	8 43 48.08	+ 3 47.26	+ 9.2	4 21 27.61	— 6.39	59 54 5.7	+ 11.6
	13	Weisse (2) 422 .	.	5	21 20.97	+ 0.13	+ 7.35	8 43 48.08	+ 3 36.24	+ 9.2	4 21 28.45	— 6.39	59 53 54.7	+ 11.6
	14	B. A. C. 1460 .	.	9	37 48.08	+ 0.39	+ 7.35	27 53 46.28	+ 3 52.09	+ 31.8	4 37 55.82	— 5.61	79 4 31.4	+ 6.6
	15	B. A. C. 1488 .	.	9	43 7.33	+ 0.93	+ 7.35	69 1 50.95	+ 3 19.69	+ 2 35.4	4 43 15.61	— 4.46	120 14 7.2	+ 0.7
	16	B. A. C. 1514 .	.	8	48 0.69	+ 0.50	+ 7.35	36 33 48.08	+ 4 22.28	+ 44.5	4 48 8.54	— 5.35	87 45 16.1	+ 4.2
	17	Lalande 9258 .	8.5	3	52 48.21	— 0.66	+ 7.35	338 33 48.75	+ 5 19.77	— 23.4	4 52 54.90	— 9.64	29 45 6.3	+ 9.3
	18	B. A. C. 1536 .	.	5	52 53.25	— 0.66	+ 7.35	338 33 48.75	+ 4 7.74	— 23.4	4 52 59.94	— 9.65	29 43 54.3	+ 9.3
	19	B. A. C. 1574 .	.	3	0 7.19	+ 1.02	+ 7.35	74 41 48.02	+ 0 36.18	+ 3 35.8	5 0 15.56	— 4.34	125 52 21.2	— 1.0
	20	B. A. C. 1599 .	.	9	3 56.57	+ 1.02	+ 7.36	74 41 48.02	+ 0 39.18	+ 3 35.8	5 4 4.95	— 4.35	125 52 24.2	— 1.2
	21	B. A. C. 1630 .	.	9	9 29.03	+ 1.03	+ 7.36	74 41 48.02	+ 6 1.56	+ 3 37.2	5 9 37.42	— 4.35	125 57 48.0	— 1.6
	22	Weisse (2) 266 .	.	9	11 53.44	— 0.07	+ 7.36	357 51 47.22	+ 4 7.02	— 2.2	5 12 0.73	— 7.28	49 2 13.2	+ 4.6
	23	B. A. C. 1661 .	.	9	15 47.79	+ 0.48	+ 7.36	35 21 47.85	+ 3 53.54	+ 42.6	5 15 55.63	— 5.44	86 32 45.2	+ 1.0
	24	Weisse 342 . .	.	9	16 32.30	+ 0.48	+ 7.36	35 21 47.85	+ 5 24.91	+ 42.7	5 16 40.14	— 5.44	86 34 16.7	+ 0.9
	25	Weisse 343 . .	.	9	16 33.33	+ 0.48	+ 7.36	35 21 47.85	+ 4 56.44	+ 42.7	5 16 41.17	— 5.44	86 33 48.2	+ 0.9
	26	α Orionis . . .	.	9	48 41.58	+ 0.42	+ **7.36**	31 25 52.12	+ 4 12.60	+ 36.8	5 48 49.36	. .	82 37 2.7	+ 0.3
	27	ν Orionis . . .	.	9	0 44.89	+ 0.33	+ **7.34**	24 1 47.45	+ 4 37.45	+ 26.9	6 0 52.59	. .	75 13 13.0	+ 0.9
	28	δ Ursæ Min., S. P.	.	8	9 35.26	+ 11.84	+ 7.37	305 27 55.00	+ 3 47.85	— 1 24.0	18 9 54.47	. .	356 36 40.0	+ 0.7
	29	μ Geminorum . .	.	9	15 44.26	+ 0.23	+ **7.40**	16 13 46.70	+ 5 18.22	+ 17.6	6 15 51.86	. .	67 25 43.7	+ 0.3
S.	30	δ Ophiuchi . . .	.	9	8 1.50	+ 0.51	+ **7.53**	42 11 46.98	+ 4 17.94	+ 55.2	16 8 9.51	. .	93 23 21.3	+ 0.3
	31	τ Herculis . . .	.	9	16 3.14	— 0.20	+ 7.51	352 13 49.02	+ 4 21.92	— 8.2	16 16 10.45	. .	43 24 23.9	— 1.2
	32	α Scorpii . . .	.	9	22 1.93	+ 0.79	+ **7.51**	64 57 53.80	+ 3 37.06	+ 2 9.7	16 22 10.23	. .	116 10 1.8	— 1.0
	33	ζ Ophiuchi . . .	.	9	30 31.37	+ 0.60	+ **7.51**	49 7 51.90	+ 4 11.47	+ 1 10.2	16 30 39.49	. .	100 19 34.8	+ 0.4
	34	η Herculis . . .	.	9	38 42.50	— 0.03	+ **7.50**	359 39 48.32	+ 5 4.74	— 0.3	16 38 49.99	. .	50 51 14.0	+ 0.7
	35	Venus I, N. . .	.	6	12 27.13	+ 0.75	+ 7.54	61 23 50.30	+ 3 54.09	+ 1 50.9	17 12 35.42	+ 0.43	112 35 56.5	. .
	36	Venus II, S. . .	.	5	12 28.02	+ 0.75	+ 7.54	61 23 50.30	+ 4 4.64	+ 1 50.9	17 12 36.31	— 0.46	112 36 7.0	. .
	37	Mercury C. . .	.	9	40 34.93	+ 0.77	+ 7.56	63 3 50.00	+ 4 9.74	+ 1 58.8	17 40 43.26	0.00	114 16 19.7	. .
	38	δ Ursæ Minoris . .	.	3	9 56.73	— 9.84	+ 7.57	312 14 . .	. .	. .	18 9 54.46	. .	3 23 . .	. .
24	39	Sun I, N. . .	.	9	12 12.54	+ 0.77	+ 7.59	61 55 53.35	+ 4 45.36	+ 1 53.1	18 12 20.90	+ 71.31	113 8 53.0	. .
	40	Sun II, S. . .	.	9	14 35.16	+ 0.77	+ 7.59	62 27 54.60	+ 5 19.14	+ 1 55.7	18 14 43.52	— 71.31	113 41 30.6	. .
	41	α Aquilæ . . .	.	9	44 53.19	+ 0.40	+ **7.61**	30 15 49.95	+ 3 41.15	+ 35.1	19 45 1.22	. .	81 26 27.4	+ 1.7
	42	β Aquilæ . . .	.	9	49 22.69	+ 0.35	+ **7.65**	32 41 48.50	+ 4 20.65	+ 38.7	19 49 30.67	. .	83 53 9.1	+ 2.4
	43	ζ Cygni . . .	.	9	7 46.89	+ 0.13	+ **7.59**	9 3 47.55	+ 4 51.70	+ 9.7	21 7 54.63	. .	60 15 10.1	+ 0.2
	44	ι Pegasi . . .	.	9	16 29.78	+ 0.27	+ **7.62**	19 29 48.35	+ 5 17.62	+ 21.4	21 16 37.66	. .	70 41 48.6	+ 1.2
	45	β Aquarii . . .	.	9	25 12.66	+ 0.56	+ **7.62**	44 53 50.90	+ 4 7.20	+ 59.9	21 25 20.83	. .	96 5 19.2	+ 1.8
	46	Moon I, S. . .	.	9	34 31.77	+ 0.60	+ 7.61	48 49 46.50	+ 3 56.69	+ 1 8.8	21 34 39.98	+ 69.19	100 1 13.2	. .
27, E.	47	B. A. C. 4165, S. P.	.	3	13 41.80	+ 23.59	+ 8.47	307 11 47.65	+ 3 55.68	— 1 14.8	12 14 13.86	+ 7.09	358 20 49.7	+ 46.5
	48	Moon I, S. . .	.	6	19 36.80	+ 0.41	+ 8.48	32 19 48.08	+ 5 7.40	+ 36.2	0 19 45.69	+ 66.80	83 31 52.9	. .
	49	κ Draconis, S. P.	.	4	28 15.73	+ 2.27	+ 8.49	289 17 51.42	+ 4 24.29	— 2 40.7	12 28 26.49	. .	340 25 56.2	+ 1.9
	50	β Ceti	.	9	37 31.66	+ 0.75	+ **8.51**	57 25 50.30	+ 4 25.97	+ 1 29.3	0 37 40.91	. .	108 38 6.8	+ 0.5

No.	Barom.	At. Ther.	Ex. Ther.
	in.	°	°
5	30.28	40.2	37.5
7	29.90	38.5	37.0
29	29.99	37.0	34.9
30	30.34	36.3	35.5
37	. .	. .	37.8
40	30.33	39.3	38.8
41	30.30	40.3	40.1
43	. .	. .	40.8
46	30.33	41.4	40.7
48	29.78	58.0	57.2

For summary of the constants of reduction see page 3.

9, 10, 11, 24, 47. One bisection.
28, 46, 48. Three bisections.
34. Four bisections.

ZENITH-POINT CORR.
″
1 to 5 + 43.91
6 to 29 + 45.54
30 to 46 + 43.85
47 to 50 + 45.28

No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	′ ″	′ ″	′ ″	′ ″
35	— 4.7	+ 5.2	0.0	+ 0.5
36	— 4.7	— 5.3	. .	— 10.0
37	— 5.5	. .	0.0	— 5.5
39	— 8.0	+ 16 18.8	. .	+ 16 10.8
40	— 8.0	— 16 18.8	. .	— 16 26.8
46	— 45 10.6	— 16 25.7	. .	— 61 36.3
48	— 31 10.1	— 15 58.3	. .	— 47 8.4

DATE AND OBS'R.	Number.	OBJECT.	Magnitude.	Threads.	MEAN THREAD.	CORRECTIONS. Inst.	CORRECTIONS. Clock.	ZENITH DIST. SOUTH, FROM CIRCLES	CORRECTIONS. Instrument.	CORRECTIONS. Refraction.	APPARENT RIGHT ASCENSION.	Miscellaneous Correction.	APPARENT NORTH-POLAR DISTANCE.	Miscellaneous Correction.
					m. s.	s.	s.	° ′ ″	′ ″	′ ″	h. m. s.	s.	° ′ ″	″
Dec. ', E.	1	B. A. C. 253 (R)	.	.	. . .	. .	. .	201 5 46.48	+ 5 14.23	+ 22.1	. . . .	. .	29 54 58.4	+42.0
	2	B. A. C. 253	.	3	49 30.00	− 0.74	+ 8.52	338 45 48.92	+ 3 13.79	− 22.1	0 49 37.78	− 5.46	29 55 1.8	+42.0
	3	ε Piscium	.	9	56 41.49	+ 0.39	+ **8.51**	31 33 51.20	+ 3 50.14	+ 35.1	0 56 50.41	. .	82 44 37.6	+ 0.6
	4	β Andromedæ	.	.	. . . .	. .	. .	3 49 46.85	+ 3 53.36	+ 3.9	1 3 . .	. .	55 0 5.3	+ 1.5
	5	Polaris	.	8	16 21.11	−28.94	+ 8.55	310 9 46.52	+ 3 49.84	− 1 7.4	1 16 0.72	. .	1 18 50.2	+ 1.7
	6	η Piscium	.	9	25 2.76	+ 0.39	+ **8.51**	24 3 45.52	+ 5 6.66	+ 25.6	1 25 11.71	. .	75 15 39.0	+ 1.0
	7	o Piscium	.	9	39 2.27	+ 0.37	+ **8.64**	30 16 . .	. . .	. .	1 39 11.22	. .	81 26 . .	. .
', S.	8	Polaris	.	7	16 26.70	−35.31	+ 8.48	310 9 45.12	+ 3 54.64	− 1 8.6	1 15 59.87	. .	1 18 52.4	+ 4.0
	9	Moon I, S.	.	9	13 27.80	+ 0.55	+ 8.48	27 27 48.60	+ 4 36.10	+ 30.3	1 13 36.83	+67.03	78 39 16.2	. .
	10	o Piscium	.	9	39 2.24	+ 0.59	+ **8.44**	30 15 47.22	+ 3 24.64	+ 34.0	1 39 11.31	. .	81 26 7.1	+ 0.6
	11	β Arietis	.	8	48 0.11	+ 0.40	+ **8.50**	18 35 46.45	+ 3 34.79	+ 19.6	1 48 8.99	. .	69 46 2.0	+ 1.7
	12	B. A. C. 620	.	9	55 44.40	− 1.07	+ 8.48	334 17 47.72	+ 3 52.65	− 27.9	1 55 51.81	− 7.53	25 27 33.7	+37.8
	13	α Arietis	.	9	0 24.26	+ 0.36	+ **8.53**	15 55 44.75	+ 3 15.41	+ 16.6	2 0 33.10	. .	67 5 38.0	+ 1.4
	14	Saturn I, N.	.	6	16 30.05	+ 0.55	+ 8.48	27 45 46.75	+ 4 34.82	+ 30.7	2 16 39.08	+ 0.66	78 57 13.5	. .
	15	Saturn II, S.	.	5	16 31.38	+ 0.55	+ 8.48	27 45 46.75	+ 4 51.35	+ 30.7	2 16 40.41	− 0.67	78 57 30.0	. .
	16	ξ^2 Ceti	.	9	21 45.82	+ 0.62	+ **8.44**	30 53 43.02	+ 3 27.78	+ 34.9	2 21 54.92	. .	82 4 6.9	+ 0.5
), E.	17	ε Cor. Bor.	.	9	52 33.49	+ 0.37	+ **7.95**	11 35 46.70	+ 4 31.01	+ 12.6	15 52 41.68	. .	62 46 51.5	− 2.8
	18	δ Ophiuchi	.	9	8 1.06	+ 0.85	+ **7.80**	42 11 47.90	+ 4 17.80	+ 55.2	16 8 9.74	. .	93 23 22.1	− 0.1
	19	τ Herculis	.	9	16 2.90	− 0.10	+ 7.83	352 13 48.72	+ 4 24.26	− 8.2	16 16 10.63	. .	43 24 26.0	− 1.4
	20	α Scorpii	.	4	22 1.45	+ 1.22	+ **7.74**	64 58 . .	. . .	. .	16 22 10.51	. .	116 10 . .	. .
	21	β Herculis	.	.	. . . .	. .	. .	17 3 52.05	+ 4 40.16	+ 18.7	16 25 . .	. .	68 15 12.1	− 0.8
1	22	Sun I, N.	.	9	43 13.97	+ 1.19	+ 7.93	61 35 55.98	+ 3 8.83	+ 1 51.1	18 43 23.09	+71.09	112 47 17.1	. .
	23	γ Cygni	.	9	17 50.82	+ 0.13	+ **7.99**	358 55 52.85	+ 4 48.80	− 1.0	20 17 58.92	. .	50 7 1.8	− 0.5
	24	α Cygni	.	9	37 15.79	− 0.01	+ **7.98**	353 57 56.10	+ 4 2.84	− 6.3	20 37 23.77	. .	45 8 13.8	+ 0.1
	25	ζ Cygni	.	9	7 46.22	+ 0.35	+ **7.99**	9 3 51.62	+ 4 48.03	+ 9.6	21 7 54.57	. .	60 15 10.4	− 0.9
	26	Polaris	.	6	16 26.55	−37.20	+ 8.20	310 9 46.48	+ 3 52.83	− 1 11.4	1 15 57.55	. .	1 18 49.1	+ 1.0
	27	o Piscium	.	9	39 2.38	+ 0.67	+ **8.18**	30 15 53.25	+ 3 18.62	+ 35.4	1 39 11.26	. .	81 26 8.5	+ 1.7
	28	B. A. C. 558	.	9	44 9.31	− 0.42	+ 8.22	344 15 53.20	+ 3 59.84	− 17.0	1 44 17.11	− 6.18	35 25 57.2	+37.3
	29	β Arietis	.	9	48 0.26	+ 0.48	+ **8.23**	18 35 53.62	+ 3 25.18	+ 20.4	1 48 8.96	. . .	69 46 0.4	0.0
	30	α Arietis	.	9	0 24.43	+ 0.43	+ **8.25**	15 55 53.72	+ 3 5.29	+ 17.3	2 0 33.09	. .	67 5 37.5	+ 0.9
	31	Saturn I, S.	.	6	16 19.32	+ 0.63	+ 8.24	27 45 54.30	+ 4 41.61	+ 32.0	2 16 28.19	+ 0.78	78 57 29.1	. .
	32	Saturn II, N.	.	5	16 20.88	+ 0.63	+ 8.24	27 45 54.30	+ 4 24.69	+ 32.0	2 16 29.75	− 0.78	78 57 12.2	. .
	33	B. A. C. 886	.	9	45 20.47	+ 1.42	+ 8.25	75 5 55.08	+ 4 9.06	+ 3 45.2	2 45 30.14	− 3.96	126 20 10.5	+ 5.8
	34	Neptune	.	9	47 54.94	+ 0.58	+ 8.26	24 31 51.65	+ 3 20.48	+ 27.7	2 48 3.78	. .	75 42 1.0	. .
	35	Jupiter I, S.	.	6	56 37.53	+ 0.56	+ 8.26	23 5 52.90	+ 3 3.10	+ 25.9	2 56 46.35	+ 1.64	74 15 43.1	. .
	36	Jupiter II, N.	.	5	56 40.82	+ 0.56	+ 8.26	23 5 52.90	+ 2 19.15	+ 25.9	2 56 49.64	− 1.65	74 14 59.1	. .
	37	B. A. C. 1005	.	9	8 34.86	+ 1.29	+ 8.26	69 1 49.65	+ 4 5.70	+ 2 37.5	3 8 44.41	− 4.18	120 14 54.1	+ 5.7
	38	B. A. C. 1060	.	6	18 52.45	+ 1.35	+ 8.28	71 53 49.85	+ 4 30.55	+ 3 4.3	3 19 2.08	− 4.13	123 7 45.9	+ 4.4
	39	B. A. C. 1082	.	9	22 51.20	+ 1.42	+ 8.28	74 51 49.65	+ 3 49.22	+ 3 41.7	3 23 0.90	− 4.06	126 5 41.8	+ 3.5
	40	ε Eridani	.	9	27 14.97	+ 0.95	+ **8.20**	48 39 49.48	+ 4 16.06	+ 1 9.0	3 27 24.20	. .	99 51 35.7	+ 2.3
	41	B. A. C. 1121	.	9	32 12.27	+ 1.29	+ 8.28	68 59 48.48	+ 4 27.95	+ 2 37.3	3 32 21.84	− 4.24	120 13 14.9	+ 4.0
	42	η Tauri	.	9	40 21.83	+ 0.42	+ **8.31**	15 3 49.70	+ 5 8.17	+ 16.4	3 40 30.54	. .	66 15 35.5	+ 0.9
	43	ζ Persei	.	9	46 36.89	+ 0.27	+ **8.32**	7 17 55.40	+ 3 37.10	+ 7.8	3 46 45.45	. .	58 28 1.5	+ 2.4
	44	γ^1 Eridani	.	9	52 24.11	+ 1.01	+ **8.30**	52 39 48.70	+ 3 18.70	+ 1 19.5	3 52 33.41	. .	103 50 48.1	+ 0.9
	45	B. A. C. 1254	.	9	57 42.98	− 0.23	+ 8.30	348 47 54.52	+ 4 2.12	− 11.9	3 57 51.05	− 7.69	39 58 5.9	+19.2
	46	γ Tauri	.	9	12 58.14	+ 0.56	+ **8.33**	23 27 54.55	+ 4 49.06	+ 26.4	4 13 7.01	. .	74 39 31.2	+ 1.6

o.	Barom.	At. Ther.	Ex. Ther.	*For summary of the constants of reduction see page 3.*		No.	Parallax.	Semi-diam.	Defective Illumination.	Sum.
	in.	°	°				′ ″	′ ″	′ ″	′ ″
8	29.96	53.9	50.8			9	−26 35.4	− 15 47.7	. .	− 42 23.1
6	29.96	53.4	50.8		ZENITH-POINT CORR.	14	− 0.5	+ 8.2	. .	+ 7.7
7	29.74	27.2	25.0			15	− 0.5	− 8.3	. .	− 8.8
2	29.69	32.6	29.6		″	22	− 7.9	+ 16 17.4	. .	+ 16 9.5
5	29.67	33.0	32.0	14, 28. One bisection.	1 to 6 + 45.28	31	− 0.5	− 8.4	. .	− 8.9
6	29.74	31.0	28.2	9. Three bisections.	8 to 16 + 46.03	32	− 0.5	+ 8.5	. .	+ 8.0
6	29.77	30.2	27.0	5, 45. Four bisections.	17 to 25 + 45.53	34	− 0.1	. .	. .	− 0.1
					26 to 46 + 47.58	35	− 0.8	− 22.0	. .	− 22.8
						36	− 0.8	+ 22.0	. .	+ 21.2

OBSERVATIONS

WITH THE

XXVI-INCH EQUATORIAL.

1881.

OBSERVATIONS

MADE WITH

THE XXVI-INCH EQUATORIAL.

Date.	Object observed.	Estimated position angle.	Washington Time.	Micrometer I.	Micrometer II.	Washington Time.	Position Circle. Ver. I.	Position Circle. Ver. II.	Eye-piece.	Image.	Observer.	Remarks.
1881.		°	h.	r.	r.	h.	°	°				
Jan 28	*Sirius*	.	. .	. . .	. . .	7.5	276.3	. . .	3 A	3	Hn.	
Feb. 17	0Σ 98	210	. .	64.188	63.980	5.7	296.2	. . .	3 A	3	F.	Parallel, 49°.4.
17	*Sirius*	48	. .	65.118	62.979	6.9	93.4	. . .	3 A	3	F.	
19	*Sirius*	.	. .	65.060	63.058	6.5	92.96	. . .	3 A	3	F.	
25	*Sirius*	.	. .	62,978	65.156	8.8	275.9	. . .	3 A	4	Hn.	
Mar. 2	TITANIA	18	10.85	61.177	66.987	10.73	127.1	. . .	5 A	2	H.	
2	OBERON	20	11.41	68.383	59.711	11.08	123.3	. . .	5 A	2	H.	
7	*Sirius*	46	. .	63.059	65.074	7.0	91.0	. . .	3 A	3	F.	
	TITANIA	190	10.64	65.870	62.276	10.47	134.8	. . .	6 A	2	H.	Faint.
	UMBRIEL	200	10.96	62.364	65.794	10.80	117.6	. . .	6 A	2	H.	Faint.
10	*Sirius*	.	. .	63.068	65.080	7.0	93.2	. . .	3 A	2	F.	Parallel, 49°.4.
	TITANIA	10	10.56	60.561	67.553	10.41	125.4	. . .	6 A	3	H.	
	OBERON	190	10.87	68.677	59.460	10.71	126.8	. . .	6 A	3	H.	
11	*Sirius*	.	. .	65.106	63.091	6.5	93.4	. . .	3 A	2	F.	
	TITANIA	10	10.36	61.587	66.588	10.23	130.05	. . .	6 A	2	H.	Faint.
	OBERON	190	10.64	67.773	60.363	10.50	129.38	. . .	6 A	2	H.	Faint. OBERON brighter than TITANIA. Images very unsteady and blurred.
14	*Sirius*	.	. .	65.073	63.061	7.7	91.14	. . .	3 A	2	F.	Cloudy.
26	*Sirius*	45	. .	63.061	65.070	6.9	94.1	. . .	3 A	2	H.	Images unsteady.
	TITANIA	20	9.11	62.154	65.971	8.96	116.1	. . .	6 A	2	H.	Very faint. Parallel, 49°.45.
27	*Sirius*	45	. .	65.079	63.034	7.0	94.6	. . .	3 A	2	H.	Images unsteady.
	TITANIA	20	8.99	67.382	60.729	8.87	124.0	. . .	6 A	2	H.	
28	*Sirius*	45	. .	63.058	65.044	6.9	94.2	. . .	3 A	3	H.	
Pril 4	TITANIA	20	8.86	66.446	61.625	8.73	119.3	. . .	6 A	2	H.	
	OBERON	200	9.15	60.566	67.534	9.00	120.55	. . .	6 A	2	H.	
5	TITANIA	20	9.50	67.526	60.602	9.36	124.35	. . .	6 A	2	H.	
	OBERON	200	10.08	59.551	68.613	9.87	124.3	. . .	6 A	2	H.	Clouds. OBERON a little brighter than TITANIA.
7	*Sirius*	45	. .	63.031	65.045	8.0	94.9	. . .	3 A	2	H.	Very unsteady.
	OBERON	190	9.28	60.424	67.659	9.14	129.5	. . .	5 A	2	H.	Haze, and satellite extremely faint.

Date.	Object observed.	Estimated position angle.	Washington Time.	Micrometer I.	Micrometer II.	Washington Time.	Position Circle. Ver. I.	Position Circle. Ver. II.	Eye-piece.	Image.	Observer.	Remarks.
1881.		°	h.	r.	r.	h.	°	°				
April 10	*Sirius*	45	. .	65.086	63.074	8.2	93.1	. . .	3 A	2	H.	Very unsteady.
11	*Sirius*	45	. .	63.074	65.078	8.5	92.7	. . .	3 A	3	H.	Faint.
15	Castor	240	. .	63.484	64.662	8.5	264.9	. . .	3 A	2	H.	
	ζ Cancri, A and B . . .	90	. .	63.995	64.134	9.2	238.9	. . .	5 A	3	H.	
	ζ Cancri . . . . . $\frac{A+B}{2}$ and C	140	. .	63.521	64.621	9.4	187.6	. . .	5 A	2	H.	Cloudy.
	ω Leonis	90	. .	. . .	. . .	9.6	56.6	. . .	6 A	3	H.	Cloudy.
16	Castor	230	. .	63.468	64.653	8.6	265.8	. . .	3 A	2	H.	
	ζ Cancri, A and B . . .	80	. .	64.133	63.983	8.8	239.5	. . .	5 A	2	H.	
	ζ Cancri . . . . . $\frac{A+B}{2}$ and C	130	. .	63.513	64.628	9.0	187.9	. . .	5 A	2	H.	
	ω Leonis	90	. .	64.004	64.100	9.3	54.6	. . .	5 A	2	H.	
	ξ Ursæ Majoris	270	. .	63.856	64.238	9.5	229.9	. . .	5 A	2	H.	
	ARIEL (?)	200	8.30	65.600	62.475	8.16	126.7	. . .	6 A	2	H.	Very faint.
22	Castor	235	. .	63.486	64.626	9.6	264.5	. . .	3 A	2	F.	
	ζ Cancri, A and B . . .	.	. .	64.176	63.958	10.1	240.6	. . .	3 A	2	F.	
	ζ Cancri . . . . . $\frac{A+B}{2}$ and C	140	. .	64.590	63.552	10.4	190.9	. . .	3 A	.	F.	
	TITANIA	15	8.91	60.914	67.275	8.77	122.9	. . .	6 A	3	H.	
	ξ Ursæ Majoris	270	. .	64.255	63.887	11.7	229.4	. . .	5 A	3	F.	Parallel, 49°.4.
23	Castor	230	. .	63.481	64.685	9.1	265.0	. . .	3 A	2	H.	
	ζ Cancri, A and B . . .	90	. .	63.990	64.128	9.4	242.8	. . .	5 A	2	H.	
	ζ Cancri . . . . . $\frac{A+B}{2}$ and C	130	. .	64.628	63.507	9.6	189.6	. . .	5 A	2	H.	
	TITANIA	20	8.24	60.840	67.288	8.12	126.7	. . .	5 A	2	H.	
	ξ Ursæ Majoris	270	. .	64.262	63.888	10.7	53.1	. . .	5 A	2	H.	
	γ Virginis	.	. .	63.528	64.599	11.6	162.7	. . .	5 A	2	H.	
26	OBERON	15	8.37	59.514	68.652	8.28	306.0	. . .	5 A	2	H.	Faint; cloudy.
27	TITANIA	195	8.51	60.682	67.495	8.40	125.7	. . .	5 A	3	H.	
	OBERON	10	8.78	67.883	60.211	8.64	128.6	. . .	5 A	3	H.	Very faint. A good comparison of magnitudes. OBERON fainter than TITANIA. Hazy.
27	γ Virginis	150	. .	63.530	64.604	11.5	163.1	. . .	3 A	2	H.	
28	Castor	230	. .	63.534	64.643	9.4	265.5	. . .	3 A	2	H.	Clouds.
	TITANIA	190	8.47	61.615	66.493	8.29	312.5	. . .	5 A	2	H,	Faint.
	OBERON	10	. .	. . .	. . .	8.62	315.4	. . .	5 A	2	H.	TITANIA brighter than OBERON. Both faint, and OBERON excessively so. Clouds.
29	Castor	230	. .	64.657	63.504	9.4	265.6	. . .	5 A	2	H.	
	ω Leonis	80	. .	64.021	64.125	9.8	234.1	. . .	5 A	2	H.	
	ξ Ursæ Majoris . . .	270	. .	63.881	64.237	10.1	231.6	. . .	3 A	2	H.	
30	Castor	230	. .	64.634	63.475	9.2	264.2	. . .	3 A	3	H.	

Date.	Object observed.	Estimated position angle.	Washington Time.	Micrometer I.	Micrometer II.	Washington Time.	Position Circle. Ver. I.	Position Circle. Ver. II.	Eye-piece.	Image.	Observer.	Remarks.
1881.		°	h.	r.	r.	h.	°	°				
pril 30	UMBRIEL (?)	200	8.71	65.954	62.123	8.61	293.2	. . .	6 A	2	H.	Excessively faint.
	TITANIA	20	8.94	61.894	66.181	8.82	298.6	. . .	6 A	2	H.	Faint.
	ζ Ursæ Majoris	270	. .	64.245	63.880	11.8	229.4	. . .	3 A	2	H.	
lay 1	ω Leonis	80	. .	64.122	64.034	9.9	235.1	. . .	6 A	3	H.	
	ξ Ursæ Majoris	270	. .	63.887	64.255	10.1	229.9	. . .	3 A	3	H.	
	OBERON	200	7.96	67.520	60.612	7.81	121.8	. . .	6 A	2	H.	Faint; haze.
	TITANIA	20	8.18	60.753	67.423	8.09	124.2	. . .	6 A	2	H.	Faint. TITANIA brighter than OBERON.
11	Castor	230	. . .	64.624	63.558	9.8	264.2	. . .	3 A	2	F.	
	ξ Ursæ Majoris	6	. .	63.993	64.260	10.2	232.3	. . .	3 A	2	F.	Seeing very bad. Parallel, 49°.4.
16	OBERON	190	8.69	68.577	59.563	8.52	125.2	. . .	6 A	2	H.	
20	ξ Ursæ Majoris	270	. .	63.882	64.259	11.8	228.9	. . .	3 A	3	H.	
	TITANIA	10	8.54	65.955	62.161	8.43	314.0	. . .	6 A	2	H.	Faint.
	γ Virginis	150	. .	64.605	63.544	13.1	340.1	. . .	3 A	2	H.	
	42 Com. Ber.	190	. .	64.026	64.119	13.4	305.5	. . .	6 A	2	H.	
	Σ 1819	30	. .	63.959	64.204	13.7	123.8	. . .	5 A	3	H.	
21	ξ Ursæ Majoris	.	. .	64.280	63.890	11.7	228.7	. . .	3 A	2	F.	
	γ Virginis	150	. .	63.562	64.592	12.1	163.5	. . .	3 A	2	F.	
	42 Com. Ber.	190	. .	64.170	63.982	12.5	125.9	. . .	6 A	2	F.	
23	UMBRIEL	20	8.82	65.772	62.236	8.71	307.2	. . .	6 A	2	H.	
	OBERON	20	9.10	68.467	59.624	8.97	306.4	. . .	6 A	2	H.	
	TITANIA	200	9.38	60.732	67.402	9.25	304.8	. . .	6 A	2	H.	
	γ Virginis	150	. .	63.538	64.615	13.8	340.9	. . .	3 A	2	H.	
	42 Com. Ber.	190	. .	64.130	64.030	14.1	306.3	. . .	6 A	3	H.	
	Σ 1819	20	. .	63.957	64.214	14.3	123.0	. . .	5 A	3	H.	Parallel, 49°.4.
24	ξ Ursæ Majoris	270	. .	63.905	64.271	11.6	228.5	. . .	5 A	3	H.	
	42 Com. Ber.	190	. .	64.132	64.027	11.8	128.9	. . .	6 A	2	H.	
	OBERON	10	8.36	67.796	60.354	8.24	129.5	. . .	6 A	2	H.	OBERON brighter than TITANIA.
	TITANIA	190	8.61	61.510	66.644	8.49	129.9	. . .	6 A	2	H.	
	Σ 1819	15	. .	63.955	64.211	13.3	124.9	. . .	5 A	3	H.	
	Σ 1785	200	. .	63.883	64.259	13.6	101.3	. . .	5 A	3	H.	
	ξ Bootis	270	. .	63.681	64.495	13.9	50.7	. . .	3 A	3	H.	
	44 Bootis	250	. .	63.592	64.580	14.2	257.8	. . .	3 A	3	H.	
	η Cor. Bor.	150	. .	64.040	64.126	14.4	193.9	. . .	6 A	3	H.	Parallel, 49°.5.
25	ARIEL	10	8.63	65.521	62.616	8.52	124.3	. . .	6 A	3	H.	
	OBERON	5	8.88	66.264	61.901	8.79	135.79	. . .	6 A	3	H.	ARIEL well seen to-night, but OBERON brighter. OBERON 15th mag. ARIEL 16th mag.
	42 Com. Ber.	190	. .	64.017	64.147	13.4	126.7	. . .	6 A	2	H.	
	Σ 1785	200	. .	63.887	64.282	13.8	102.1	. . .	5 A	3	H.	

Date.	Object observed.	Estimated position angle.	Washington Time.	Micrometer I.	Micrometer II.	Washington Time.	Position Circle. Ver. I.	Position Circle. Ver. II.	Eye-piece.	Image.	Observer.	Remarks.
1881.		°	h.	r.	r.	h.	°	°				
May 25	ξ Bootis	270	. .	64.491	63.678	14.0	50.9	. . .	3 A	3	H.	
	44 Bootis	240	. .	63.598	64.595	14.2	258.1	. . .	3 A	2	H.	
	η Cor. Bor.	120	. .	64.037	64.121	14.4	192.7	. . .	6 A	2	H.	
26	25 Canum Venat. . . .	160	. .	64.022	64.142	13.3	164.2	. . .	6 A	2	H.	
	Σ 1819	15	. .	63.950	64.202	13.6	123.3	. . .	5 A	3	H.	
	ξ Bootis	270	. .	64.496	63.687	13.8	49.2	. . .	3 A	3	H.	
	μ_3 Bootis	120	. .	64.022	64.148	14.1	197.1	. . .	5 A	3	H.	
	η Cor. Bor.	120	. .	64.039	64.131	14.4	195.0	. . .	6 A	3	H.	
	OΣ 298	180	. .	64.052	64.116	14.6	147.1	. . .	6 A	3	H.	
27	TITANIA	15	8.58	60.874	67.320	8.47	124.0	. . .	5 A	3	H.	
	OBERON (?)	200	8.83	62.178	65.988	8.72	110.4	. . .	5 A	3	H.	Very faint.
	25 Canum Venat. . . .	160	. .	64.141	64.032	13.6	160.3	. . .	5 A	2	H.	Image blurred.
	η Cor. Bor.	120	. .	64.030	64.141	13.9	196.7	. . .	5 A	2	H.	
	μ_3 Bootis	120	. .	64.024	64.142	14.2	198.2	. . .	5 A	2	H.	Star images blurred.
28	TITANIA	10	8.71	61.114	67.029	8.58	128.1	. . .	6 A	3	H.	
	OBERON	200	9.03	60.555	67.564	8.85	120.0	. . .	6 A	3	H.	TITANIA and OBERON nearly equal in brightness, but TITANIA a *little* brighter.
	25 Canum Venat. . . .	150	. .	64.125	64.032	14.1	341.9	. . .	6 A	3	H.	
	μ_2 Bootis	130	. .	64.013	64.144	14.3	197.4	. . .	6 A	3	H.	
	OΣ 298	180	. .	64.041	64.119	14.6	140.8	. . .	6 A	3	H.	
30	OBERON	200	8.67	59.765	68.395	8.52	127.0	. . .	6 A	3	H.	
	OΣ 298	180	. .	64.045	64.111	13.8	144.5	. . .	6 A	3	H.	
June 8	μ_2 Bootis	.	. .	64.158	64.002	13.9	193.8	. . .	5 A	2	F.	
13	μ Bootis	170	. .	53.198	74.970	13.2	148.15	. . .	3 A	2	H.	Parallel, 49°5.
	σ Cor. Bor.	210	. .	63.700	64.444	13.8	116.2	. . .	3 A	2	H.	
15	μ Bootis	170	. .	53.215	74.983	14.4	148.02	. . .	3 A	2	H.	
	σ Cor. Bor.	200	. .	63.713	64.436	15.3	116.5	. . .	3 A	2	H.	
16	Σ 1757	70	. .	64.296	63.862	14.1	249.6	. . .	3 A	2	F.	
	Σ 1785	200	. .	64.258	63.885	14.5	285.8	. . .	3 A	2	F.	Clouds.
	Σ 1819	210	. .	63.920	64.236	15.0	303.7	. . .	3 A	2	F.	
	ξ Bootis	270	. .	64.464	63.686	15.3	226.5	. . .	3 A	2	F.	
	μ Bootis, μ_1, and mean of μ_2.	180	. .	53.190	75.028	15.8	328.05	. . .	3 A	2	F.	Could not observe μ_3 Bootis. Parallel, 49°.5.
18	42 Com. Ber.	190	. .	63.974	64.174	13.8	302.7	. . .	5 A	3	F.	
	Σ 1757	70	. .	63.851	64.297	14.1	252.6	. . .	3 A	3	F.	
	Σ 1785	210	. .	63.902	64.279	14.5	288.2	. . .	3 A	3	F.	
	μ_2 Bootis	120	. .	64.189	63.993	14.8	192.2	. . .	5 A	2	F.	
	μ Bootis, μ_1, and mean of μ_2.	180	. .	53.213	74.938	15.1	147.75	. . .	3 A	2	F.	
	Σ 1819	15	. .	64.234	63.947	15.6	297.7	. . .	3 A	2	F.	Seeing getting worse.

Date.	Object observed.	Estimated position angle.	Washington Time.	Micrometer I.	Micrometer II.	Washington Time.	Position Circle. Ver. I.	Position Circle. Ver. II.	Eye-piece.	Image.	Observer.	Remarks.
1881.		°	h.	r.	r.	h.	°	°				
ne 22	σ Cor. Bor.	200	. .	63.718	64.446	14.4	116.8	. . .	3 A	3	H.	
	ζ Herculis	100	. .	64.223	63.923	14.8	209.2	. . .	5 A	2	H.	Blurred images.
	Σ 2120	260	. .	63.538	64.616	15.1	245.7	. . .	5 A	2	H.	
ly 2	ζ Herculis	100	. .	64.216	63.934	15.0	208.7	. . .	5 A	3	H.	
	Σ 2120	240	. .	63.535	64.633	15.2	246.6	. . .	5 A	3	H.	
	μ^1 Herculis	250	. .	64.179	63.979	15.9	249.7	. . .	5 A	2	H.	
5	ζ Herculis	110	. .	63.934	64.254	16.5	29.1	. . .	5 A	2	H.	
	Σ 2120	250	. .	63.562	64.620	16.8	68.4	. . .	5 A	2	H.	
	70 Ophiuchi	70	. .	64.357	63.820	17.2	78.5	. . .	3 A	2	H.	
9	ζ Herculis	110	. .	63.965	64.220	15.1	208.0	. . .	5 A	3	H.	
	λ Ophiuchi	40	. .	63.948	64.240	15.4	98.8	. . .	5 A	3	H.	
	Σ 2107	240	. .	64.045	64.144	15.7	90.0	. . .	6 A	3	H.	
	Σ 2173	320	. .	64.062	64.116	16.1	198.0	. . .	6 A	2	H.	Not separated.
	μ^1 Herculis	250	. .	64.202	63.980	17.0	68.9	. . .	6 A	3	H.	
	τ Ophiuchi	260	. .	64.258	63.907	17.3	68.2	. . .	5 A	3	H.	
	70 Ophiuchi	70	. .	63.834	64.315	17.6	77.2	. . .	5 A	3	H.	
12	ζ Herculis	110	. .	64.221	63.939	15.9	209.7	. . .	5 A	2	H.	
	λ Ophiuchi	40	. .	63.953	64.229	16.1	101.4	. . .	3 A	2	H.	
	70 Ophiuchi	60	. .	64.331	63.837	16.5	78.9	. . .	3 A	2	H.	
14	λ Ophiuchi	40	. .	63.933	64.233	16.3	103.5	. . .	5 A	2	H.	
	Σ 2107	230	. .	64.042	64.118	16.6	91.7	. . .	6 A	2	H.	
	μ^1 Herculis	250	. .	63.970	64.196	16.9	69.0	. . .	5 A	2	H.	
	τ Ophiuchi	250	. .	63.917	64.250	17.2	68.5	. . .	5 A	2	H.	
	70 Ophiuchi	60	. .	63.820	64.314	17.4	79.3	. . .	5 A	2	H.	
	α Lyræ	150	. .	69.007	59.170	17.7	163.75	. . .	3 A	2	H.	
15	Σ 2120	250	. .	64.605	63.531	17.9	251.5	. . .	5 A	2	F.	
	70 Ophiuchi	70	. .	64.318	63.832	18.5	56.1	. . .	3 A	2	F.	
24	61 Cygni	120	. .	66.116	62.057	21.8	201.8	. . .	3 A	3	H.	Bright field
25	61 Cygni	120	. .	66.106	62.048	21.8	202.1	. . .	3 A	2	H.	Bright field.
ug. 2	λ Ophiuchi	40	. .	63.930	64.217	16.8	103.5	. . .	5 A	2	H.	Clock running badly.
	μ^1 Herculis	250	. .	63.989	64.176	17.1	74.0	. . .	5 A	2	H.	
	τ Ophiuchi	260	. .	63.907	64.255	17.4	67.9	. . .	5 A	2	H.	
	70 Ophiuchi	60	. .	63.830	64.330	17.7	80.3	. . .	5 A	2	H.	
	α Lyræ	150	. .	59.155	69.015	17.9	163.72	. . .	5 A	2	H.	
	δ Cygni	340	. .	63.935	64.253	18.6	170.2	. . .	5 A	2	H.	
	OΣ 387	200	. .	. . .	. . .	18.8	130.5	. . .	6 A	2	H.	Images too bad for *distance*. Parallel, 49°.5.
3	μ^1 Herculis	250	. .	64.000	64.180	17.2	70.5	. . .	5 A	2	H.	Cloudy.
	δ Cygni	340	. .	63.900	64.268	18.4	168.9	. . .	3 A	2	H.	Distance poor.

Date.	Object observed.	Estimated position angle.	Washington Time.	Micrometer I.	Micrometer II.	Washington Time.	Position Circle. Ver. I.	Position Circle. Ver. II.	Eye-piece.	Image.	Observer.	Remarks.
1881.		°	h.	r.	r.	h.	°	°				
Aug. 5	α Lyræ	150	. .	69.005	59.181	17.2	163.85	. . .	3 A	3	H.	
	δ Cygni	340	. .	63.924	64.246	18.4	171.7	. . .	5 A	2	H.	
12	α Lyræ	150	. .	59.175	68.989	17.5	163.85	. . .	3 A	3	H.	The faint companion of α Lyræ, found by G. A., is of 15th mag. Parallel, 229°.50.
	OΣ 387	180	. .	64.031	64.131	18.4	126.9	. . .	6 A	3	H.	
	61 Cygni	120	. .	62.059	66.121	19.1	200.9	. . .	3 A	3	H.	
15	α Lyræ	150	. .	69.007	59.167	17.5	164.0	. . .	3 A	2	H.	
	61 Cygni	120	. .	62.049	66.090	18.9	200.6	. . .	3 A	2	H.	
16	α Lyræ	150	. .	68.988	59.158	17.5	163.70	. . .	3 A	3	H.	
	OΣ 387	180	. .	64.019	64.129	18.0	129.2	. . .	6 A	3	H.	
	61 Cygni	120	. .	62.049	66.116	19.2	201.0	. . .	3 A	3	H.	
20	α Lyræ	290	. .	69.262	64.088	19.2	206.6	. . .	3 A	2	H.	15–14 mag. This faint star found by G. A. July 2.
Sept. 19	HYPERION	300	12.88	51.419	64.083	12.73	192.45	. . .	3 A	3	H.	Faint.
	EUCELADUS	200	. .	. . .	. . .	13.08	123.12	. . .	3 A	3	H.	Zero by TITAN 49°.5, but images very unsteady.
20	TITAN	170	12.48	56.993	71.165	12.38	158.40	. . .	3 A	2	H.	
	NEPTUNE'S satellite . .	55	13.42	65.765	62.426	13.26	102.7	. . .	6 A	2	H.	Faint.
	HYPERION	290	13.86	81.275	64.100	13.75	28.08	. . .	3 A	3	H.	Parallel by TITAN, 49°.5.
22	HYPERION	270	12.31	87.347	64.100	12.20	222.80	. . .	3 A	3	H.	Faint.
22	NEPTUNE'S satellite . .	250	13.10	65.443	62.769	12.92	75.6	. . .	6 A	3	H.	
23	JAPETUS	200	12.18	82.662	64.094	12.09	117.85	. . .	3 A	3	H.	
	HYPERION	270	12.54	88.325	64.094	12.42	228.58	. . .	3 A	3	H.	
	NEPTUNE'S satellite . .	230	12.94	65.732	62.482	12.81	103.7	. . .	6 A	3	H.	Good image of SATURN. No singular appearance.
24	HYPERION	270	11.76	40.653	64.101	11.65	233 92	. . .	3 A	2	H.	
	JAPETUS	190	11.99	47.603	64.101	11.89	131.50	. . .	3 A	2	H.	
	NEPTUNE'S satellite . .	170	12.43	63.287	64.887	12.23	156.7	. . .	6 A	2	H.	Very faint. Images blurred.
26	JAPETUS	160	11.65	48.319	64.097	11.53	165.85	. . .	3 A	2	H.	Cloudy.
29	RHEA	0	11.82	61.208	67.040	11.74	142.8	. . .	3 A	4	H.	
	NEPTUNE'S satellite . .	220	12.62	62.513	65.689	12.51	106.0	. . .	6 A	3	H.	
	HYPERION	130	13.11	74.284	64.100	12.98	188.48	. . .	3 A	3	H.	Doubtful which of two objects observed is HYPERION.
Oct. 1	HYPERION	92	11.68	84.099	64.103	11.56	219.05	. . .	3 A	3	H.	
	NEPTUNE'S satellite . .	60	12.10	62.656	65.533	11.98	80.0	. . .	6 A	2	H.	Faint.
20	HYPERION	130	9.95	72.999	64.075	9.82	359.62	. . .	3 A	2	H.	Very faint.
	Satellite of NEPTUNE .	30	10.41	65.418	62.739	10.29	297.5	. . .	6 A	2	H.	Faint. Images of planets very poor and unsteady.
21	Σ 3062	310	. .	63.938	64.210	23.0	194.7	. . .	3 A	2	H.	
	HYPERION	120	10.52	78.294	64.079	10.40	205.72	. . .	3 A	2	H.	
	Satellite of NEPTUNE .	270	11.02	64.984	63.199	10.85	222.0	. . .	6 A	2	H.	Very faint. Images very poor.
22	Σ 3062	300	. .	63.944	64.232	22.8	194.5	. . .	3 A	2	H.	
	η Cassiopeæ	150	. .	63.552	64.624	23.1	160.7	. . .	3 A	2	H.	

Date.	Object observed.	Estimated position angle.	Washington Time.	Micrometer I.	Micrometer II.	Washington Time.	Position Circle. Ver. I.	Position Circle. Ver. II.	Eye-piece.	Image.	Observer.	Remarks.
1881.		°	h.	r.	r.	h.	°	°				
Oct. 22	Σ 191	180	. .	64.650	63.500	23.4	305.70	. . .	3 A	2	H.	
	TITAN	160	10.02	71.461	56.701	9.95	164.72	. . .	3 A	3	H.	
	HYPERION	100	10.24	44.650	64.072	10.14	37.00	. . .	3 A	3	H.	
	Satellite of NEPTUNE .	240	10.94	65.745	62.408	10.83	91.48	. . .	6 A	3	H.	Images steady but sky not very clear.
25	HYPERION	90	10.19	88.372	64.091	10.07	55.38	. . .	3 A	2	H.	
	NEPTUNE's satellite . .	30	10.53	62.358	65.796	10.41	92.60	. . .	6 A	2	H.	Parallel, 49°.5. Cloudy at times and images poor.
26	HYPERION	80	9.92	41.935	64.090	9.82	61.15	. . .	3 A	3	H.	Faint.
	NEPTUNE's satellite . .	15	10.27	65.294	62.910	10.12	123.60	. . .	6 A	2	H.	Faint. Parallel, 49°.5. Images steady but sky thick.
27	Σ 3062	300	. .	63.945	64.221	23.1	193.40	. . .	3 A	2	H.	
	HYPERION	70	10.54	45.742	64.088	10.43	69.22	. . .	3 A	2	H.	Very faint.
	NEPTUNE's satellite . .	270	10.92	63.122	65.045	10.78	54.50	. . .	6 A	2	H.	Faint. Hazy.
Nov. 4	HYPERION	270	10.47	39.300	64.076	10.20	226.90	. . .	3 A	2	H.	Clouds very faint.
13	HYPERION	95	9.29	86.825	64.066	9.18	223.52	. . .	3 A	2	H.	
	NEPTUNE's satellite . .	350	9.83	63.238	64.863	9.58	148.48	. . .	6 A	2	H.	Very faint. Parallel, 49°.5.
14	HYPERION	90	9.00	39.439	64.069	8.88	229.25	. . .	3 A	2	H.	Very faint. Hazy.
15	HYPERION	85	10.61	39.785	64.075	10.50	55.02	. . .	3 A	3	H.	
	NEPTUNE's satellite . .	240	11.12	65.701	62.441	10.99	105.00	. . .	6 A	3	H.	
16	Σ 3062	300	. .	63.923	64.219	23.3	193.2	. . .	3 A	3	H.	
	η Cassiopeæ	160	. .	63.546	64.601	23.5	157.9	. . .	3 A	2	H.	
	Σ 191	190	. .	64.625	63.491	23.8	305.4	. . .	3 A	3	H.	
	HYPERION	80	8.61	86.469	64.071	8.52	60.15	. . .	3 A	3	H.	
	NEPTUNE's satellite . .	160	9.96	64.843	63.273	9.79	156.20	. . .	6 A	3	H.	Excessively faint. Hazy. Parallel, 49°.5.
20	HYPERION	380	11.02	56.017	64.067	10.94	326.72	. . .	3 A	3	H.	
	NEPTUNE's satellite . .	240	11.39	65.543	62.610	11.24	260.80	. . .	6 A	3	H.	Parallel, 229°.5.
	Deimos	70	13.32	68.648	64.067	13.19	67.82	. . .	3 A	3	H.	Very faint.
24	HYPERION	270	8.86	41.530	64.060	8.63	220.30	. . .	3 A	2	H.	Poor images. Driving clock running fast.
25	HYPERION	270	10.79	88.544	64.062	10.70	46.32	. . .	3 A	3	H.	
26	HYPERION	270	8.92	39.844	64.061	8.83	51.15	. . .	3 A	2	H.	
	NEPTUNE's satellite . .	240	9.55	62.550	65.554	9.34	85.00	. . .	6 A	2	H.	
27	HYPERION	265	10.13	86.094	64.058	10.03	57.00	. . .	3 A	2	H.	
28	HYPERION	260	9.56	46.070	64.070	9.48	64.12	. . .	3 A	3	H.	
Dec. 7	HYPERION	80	8.48	41.964	64.074	8.37	59.30	. . .	3 A	2	H.	
8	HYPERION	75	9.11	45.400	64.076	9.01	66.52	. . .	3 A	3	H.	
	NEPTUNE's satellite . .	240	9.42	65.706	62.453	9.32	90.00	. . .	6 A	3	H.	
10	HYPERION	40	7.92	53.998	64.070	7.82	97.02	. . .	3 A	2	H.	
	Phobos	70	12.47	61.880	64.070	12.33	66.72	. . .	3 A	2	H.	Very faint.
15	HYPERION	275	8.18	85.827	64.083	7.98	39.90	. . .	3 A	2	H.	
	Satellite of NEPTUNE .	240	8.50	65.315	62.838	8.38	121.18	. . .	6 A	2	H.	Faint.

Date.	Object observed.	Estimated position angle.	Washington Time.	Micrometer I.	Micrometer II.	Washington Time.	Position Circle. Ver. I.	Position Circle. Ver. II.	Eye-piece.	Image.	Observer.	Remarks.
1881.		°	h.	r.	r.	h.	°	°				
Dec. 16	η Cassiopeæ	160	. .	63.552	64.608	0.4	333.4	. . .	3 A	3	H.	
	Σ 191	180	. .	64.628	63.523	0.7	305.9	. . .	3 A	3	H.	
	Σ 228	130	. .	64.027	64.115	1.0	165.4	. . .	6 A	2	H.	
	HYPERION	275	8.15	87.877	64.071	8.04	45.42	. . .	3 A	3	H.	Very faint. Hazy.
	Deimos	250	10.06	69.416	64.071	9.96	72.42	. . .	3 A	3	H.	
	Phobos	250	10.31	61.972	64.071	10.20	69.48	. . .	3 A	3	H.	Very faint.
	Deimos	250	10.49	58.674	64.071	10.41	71.30	. . .	3 A	3	H.	
17	η Cassiopeæ	160	. .	63.527	64.605	0.5	333.6	. . .	3 A	3	H.	
	Σ 191	190	. .	64.608	63.528	0.8	306.3	. . .	3 A	3	H.	
	Σ 228	130	. .	64.108	64.032	1.0	161.1	. . .	6 A	3	H.	
	HYPERION	270	8.11	40.276	64.072	8.03	50.22	. . .	3 A	2	H.	
	Satellite of NEPTUNE .	50	8.43	62.376	65.743	8.31	92.90	. . .	6 A	2	H.	
	Phobos	70	12.81	61.915	64.072	12.70	69.75	. . .	3 A	3	H.	Very well seen.
	Deimos	250	13.37	68.502	64.072	13.25	253.48	. . .	3 A	3	H.	Faint.
	Deimos	250	14.35	69.016	64.072	14.26	252.52	. . .	3 A	2	H.	Very faint.
18	HYPERION	265	7.31	86.207	64.064	7.21	55.40	. . .	3 A	2	H.	
	NEPTUNE's satellite . .	30	7.69	62.867	65.264	7.60	122.50	. . .	6 A	2	H.	Faint.
23	Deimos	70	11.38	59.522	64.070	11.24	71.18	. . .	3 A	3	H.	Parallel, 49°.5. Images unsteady. Sky clear. Deimos unexpectedly bright 3 hours past elongation.
24	HYPERION	110	8.29	47.239	64.070	8.20	34.42	. . .	3 A	4	H.	
	Satellite of NEPTUNE .	15	8.63	63.057	65.076	8.53	131.40	. . .	6 A	3	H.	
	Phobos	250	9.15	66.114	64.070	9.07	72.15	. . .	3 A	4	H.	Very bright. Can be seen with ⅔ of planet's disc in field.
	Phobos	70	13.46	62.032	64.070	13.02	252.00	. . .	3 A	4	H.	Very bright. Sector strap broke. Distance measured after strap was repaired. Position angle measured without clock.
	Deimos	70	13.56	58.900	64.070	13.51	252.72	. . .	3 A	4	H.	
	Phobos	70	. .	. .	. .	13.67	248.55	. . .	3 A	4	H.	Found sector strap broken at 12.50, and first angle of position of Phobos after this time was observed without clock. Give it half weight. Tied up strap, and other observations good. Strap mended between 13^h 0^m and 13^h 23^m.
27	HYPERION	90	7.59	40.665	64.068	7.46	52.60	. . .	3 A	4	H.	
31	Phobos	250	9.74	66.048	64.070	9.66	74.18	. . .	3 A	3	H.	Faint. Cloudy.
	Deimos	250	10.34	68.371	64.070	10.18	74.68	. . .	3 A	3	H.	Parallel, 49°.5. Cloudy at times during evening. Satellites well seen occasionally.

RESULTS OF OBSERVATIONS

MADE WITH THE

XXVI-INCH EQUATORIAL.

1881.

RESULTS OF OBSERVATIONS

MADE WITH

THE XXVI-INCH EQUATORIAL.

RESULTS OF OBSERVATIONS OF THE SATELLITE OF NEPTUNE.

Date.	Washington Mean Time.	Position Angle.	Number of measures.	Weight.	Washington Mean Time.	Distance.	Number of measures.	Weight.	Observer.	Remarks.
1881.	h. m.	°			h. m.	″				
Sept. 20	13 15.4	36.8	4	2	13 25.4	16.61	3	2	H.	Faint.
22	12 55.5	243.9	4	3	13 6.0	13.30	3	3	H.	
23	12 48.5	215.8	4	3	12 56.5	16.17	3	3	H.	
24	12 14.1	162.8	4	2	12 25.6	7.96	3	2	H.	Very faint.
29	12 30.5	213.5	4	3	12 37.0	15.80	3	3	H.	
Oct. 1	11 59.1	59.5	4	2	12 6.1	14.31	3	2	H.	Faint.
20	10 17.2	22.0	4	2	10 24.7	13.32	3	2	H.	Faint.
21	10 50.7	277.5	4	2	11 1.2	8.87	3	2	H.	Very faint.
22	10 49.8	228.0	4	3	10 56.3	16.60	3	3	H.	
25	10 24.6	46.9	4	2	10 31.9	17.10	3	2	H.	
26	10 7.5	15.9	4	2	10 16.0	11.86	3	2	H.	Faint.
27	10 46.5	265.0	4	2	10 55.0	9.57	3	2	H.	Faint. Sky hazy.
Nov. 13	9 35.0	351.0	4	2	9 50.0	8.08	3	2	H.	Very faint.
15	10 59.2	214.5	4	3	11 8.2	16.23	3	3	H.	
16	9 47.2	163.3	4	3	9 57.7	7.81	3	3	H.	Excessively faint. Hazy.
20	11 14.4	238.7	4	3	11 23.4	14.59	3	3	H.	
26	9 20.3	234.5	4	2	9 32.8	14.94	3	2	H.	
Dec. 8	9 19.4	229.5	4	3	9 25.4	16.18	3	3	H.	
15	8 22.7	198.3	4	2	8 30.2	12.31	3	2	H.	Faint.
17	8 18.8	46.6	4	2	8 25.8	16.74	3	2	H.	
18	7 35.9	17.0	4	2	7 41.4	11.92	3	2	H.	Faint.
24	8 32.1	8.1	4	3	8 38.1	10.04	3	3	H.	

RESULTS OF OBSERVATIONS OF THE SATELLITES OF URANUS.

ARIEL.

Date.	Washington Mean Time.	Position Angle.	Number of measures.	Weight.	Washington Mean Time.	Distance.	Number of measures.	Weight.	Observer.	Remarks.
1881.	h. m.	°			h. m.	″				
April 16	8 9.4	192.7	4	2	8 17.9	15.54	2	2	H.	Very faint.
May 25	8 31.5	15.2	4	3	8 38.0	14.45	3	2	H.	

UMBRIEL.

Mar. 7	10 47.9	201.8	4	2	10 57.4	17.06	3	2	H.	Very faint.
April 30	8 36.5	206.2	4	2	8 42.5	19.05	1	2	H.	Excessively faint.
May 23	8 42.9	12.2	4	2	8 49.4	17.59	1	2	H.	

RESULTS OF OBSERVATIONS OF THE SATELLITES OF URANUS—Continued.

TITANIA.

Date.	Washington Mean Time.	Position Angle.	Number of measures.	Weight.	Washington Mean Time.	Distance.	Number of measures.	Weight.	Observer.	Remarks.
1881.	h. m.	°			h. m.	″				
Mar. 2	10 44.1	12.3	4	2	10 51.1	28.90	3	2	H.	
7	10 28.4	184.6	4	2	10 34.8	17.88	3	2	H.	Faint.
10	10 24.5	14.0	4	3	10 33.5	34.78	3	3	H.	
11	10 13.6	9.4	4	2	10 21.6	24.87	3	2	H.	Faint.
26	8 57.5	23.3	4	2	9 6.5	18.98	3	2	H.	Very faint.
27	8 52.5	15.4	4	2	8 59.5	33.09	3	2	H.	
April 4	8 43.8	20.1	4	2	8 51.8	23.97	3	2	H.	
5	9 21.8	15.1	4	2	9 29.3	34.44	3	2	H.	Cloudy.
22	8 46.0	16.5	4	3	8 54.5	31.64	3	3	H.	
23	8 7.1	12.7	4	2	8 14.6	32.07	3	2	H.	
27	8 23.9	193.7	4	3	8 30.9	33.88	3	3	H.	Faint.
28	8 17.4	186.9	4	2	8 28.4	24.26	3	2	H.	Faint.
30	8 49.0	20.8	4	2	8 56.5	21.32	3	2	H.	Faint.
May 1	8 5.1	15.2	4	2	8 10.6	33.18	3	2	H.	Faint.
20	8 25.7	5.4	4	2	8 32.7	18.87	3	2	H.	Faint.
23	9 14.9	194.6	4	2	9 22.9	33.18	3	2	H.	
24	8 29.4	189.6	4	2	8 36.9	25.53	3	2	H.	
27	8 28.0	15.5	4	3	8 35.0	32.06	3	3	H.	
28	8 34.6	11.4	4	3	8 42.6	29.42	3	3	H.	

OBERON.

Date.	Washington Mean Time.	Position Angle.	Number of measures.	Weight.	Washington Mean Time.	Distance.	Number of measures.	Weight.	Observer.	Remarks.
Mar. 2	11 4.6	16.1	4	2	11 24.6	43.13	3	2	H.	
10	10 42.5	192.6	4	3	10 52.0	45.84	3	3	H.	
11	10 30.1	190.1	4	2	10 38.6	36.85	3	2	H.	Faint.
April 4	9 0.3	198.9	4	2	9 8.8	34.66	3	2	H.	
5	9 52.0	195.1	4	2	10 4.8	45.07	3	2	H.	Clouds.
7	9 8.4	189.9	4	2	9 16.4	35.99	3	2	H.	Extremely faint. Haze.
26	8 16.7	13.4	4	2	8 22.2	45.45	1	2	H.	Faint. Cloudy.
27	8 38.4	10.8	4	3	8 46.9	38.16	3	3	H.	Very faint.
28	8 37.4	4.0	4	2	. . .	. .	.	.	H.	Excessively faint. Clouds.
May 1	7 48.6	197.6	4	2	7 57.6	34.36	3	2	H.	Faint. Haze.
16	8 31.5	194.2	4	2	8 41.5	44.83	3	2	H.	
23	8 58.4	13.0	4	2	9 5.9	43.98	3	2	H.	
24	8 14.4	10.0	4	2	8 21.9	37.01	3	2	H.	
25	8 47.5	3.7	4	3	8 53.0	21.70	3	3	H.	
27	8 43.0	209.1	4	3	8 50.0	18.95	2	3	H.	Very faint.
28	8 51.1	199.5	4	3	9 2.1	34.86	3	3	H.	
30	8 31.1	192.5	4	3	8 40.1	42.93	3	3	H.	

RESULTS OF OBSERVATIONS OF THE SATELLITES OF SATURN.

ENCELADUS.

Date.	Washington Mean Time.	Position Angle.	Number of measures.	Weight.	Washington Mean Time.	Distance.	Number of measures.	Weight.	Observer.	Remarks.
1881.	h. m.	°			h. m.	″				
Sept. 19	13 4.8	196.38	4	3	. .	. .	.	.	H.	

TITAN.

Date.	Washington Mean Time.	Position Angle.	Number of measures.	Weight.	Washington Mean Time.	Distance.	Number of measures.	Weight.	Observer.	Remarks.
Sept. 20	12 22.9	161.10	4	2	12 28.9	70.49	2	2	H.	
Oct. 22	9 56.8	154.78	4	3	10 1.3	73.42	2	3	H.	

RESULTS OF OBSERVATIONS OF THE SATELLITES OF SATURN—Continued.

HYPERION.

Date.	Washington Mean Time.	Position Angle.	Number of measures.	Weight.	Washington Mean Time.	Distance.	Number of measures.	Weight.	Observer.	Remarks.
1881.	h. m.	°			h. m.	″				
Sept. 19	12 43.8	307.05	4	3	12 52.8	125.98	4	3	H.	Faint.
20	13 44.9	291.42	4	3	13 51.4	170.86	4	3	H.	
22	12 12.0	276.70	4	3	12 18.5	231.26	4	3	H.	
23	12 25.0	270.92	4	3	12 32.5	241.05	4	3	H.	
24	11 39.1	265.58	4	2	11 45.6	233.31	4	2	H.	
29	12 58.5	131.02	4	3	13 6.5	101.31	4	3	H.	
Oct. 1	11 33.6	100.45	4	3	11 40.6	198.92	4	3	H.	
20	9 49.2	139.88	4	2	9 57.2	88.78	4	2	H.	Very faint.
21	10 24.2	113.78	4	2	10 31.2	142.41	4	2	H.	
22	10 8.3	102.50	4	3	10 14.3	193.21	4	2	H.	
25	10 4.4	84.12	4	2	10 11.1	241.55	4	2	H.	
26	9 49.0	78.35	4	3	9 55.5	220.40	4	3	H.	Faint.
27	10 26.0	70.28	4	2	10 32.5	182.51	4	2	H.	Very faint. Sky hazy.
Nov. 4	10 12.1	272.60	4	2	10 28.1	246.47	4	2	H.	Clouds. Very faint.
13	9 11.0	95.98	4	2	9 17.5	226.41	4	2	H.	
14	8 53.1	90.25	4	2	8 59.8	245.02	4	2	H.	Very faint. Hazy.
15	10 30.2	84.48	4	3	10 36.7	241.64	4	3	H.	
16	8 31.2	79.35	4	3	8 36.7	222.76	4	3	H.	
20	10 56.4	352.78	4	3	11 1.4	80.08	4	3	H.	
24	8 37.7	279.20	4	2	8 51.7	224.13	2	2	H.	
25	10 41.7	273.18	4	3	10 47.2	243.55	4	3	H.	
26	8 49.8	268.35	4	2	8 55.3	240.91	4	2	H.	
27	10 1.8	262.50	4	2	10 7.8	219.21	4	2	H.	
28	9 28.8	255.38	4	3	9 33.8	179.07	4	3	H.	
Dec. 7	8 22.3	80.20	4	2	8 28.8	219.97	4	2	H.	
8	9 0.9	72.98	4	3	9 6.9	185.79	4	3	H.	
10	7 49.5	42.48	4	2	7 55.0	100.20	4	2	H.	
15	7 58.7	279.60	4	2	8 10.7	216.40	4	2	H.	
16	8 2.3	274.08	4	3	8 8.8	236.84	4	3	H.	Very faint. Hazy.
17	8 1.8	269.28	4	2	8 6.8	236.72	4	2	H.	
18	7 12.9	264.10	4	2	7 18.9	220.28	4	2	H.	
24	8 12.1	105.08	4	4	8 17.6	167.44	4	4	H.	
27	7 27.6	86.90	4	4	7 35.3	232.82	4	4	H.	

JAPETUS.

Sept. 23	12 5.5	201.65	4	3	12 11.0	184.71	4	3	H.	
24	11 53.6	188.00	4	2	11 59.6	164.12	4	2	H.	
26	11 31.7	153.65	4	2	11 39.0	156.96	4	2	H.	Cloudy.

RESULTS OF OBSERVATIONS OF THE SATELLITES OF MARS.

PHOBOS.

Date.	Washington Mean Time.	Position Angle.	Number of measures.	Weight.	Washington Mean Time.	Distance.	Number of measures.	Weight.	Observer.	Remarks.
1881.	h. m.	°			h. m.	″				
Dec. 10	12 20.0	72.85	4	2	12 28.0	21.88	4	2	H.	Very faint
16	10 12.3	250.08	4	3	10 18.8	20.82	4	3	H.	Very faint.
17	12 41.8	69.77	4	3	12 48.8	21.50	4	3	H.	Satellite well seen.
24	9 4.1	247.36	4	4	9 9.1	20.33	4	4	H.	Satellite very bright.
24	13 1.1	67.52	4	4	13 27.6	20.29	4	4	H.	Angle of position observed without clock.
24	13 40.1	70.95	4	4	. . .	. .	.	.	H.	
31	9 39.5	245.29	4	3	9 44.5	19.68	4	3	H.	Faint. Cloudy.

RESULTS OF OBSERVATIONS OF THE SATELLITES OF MARS—Continued.

DEIMOS.

Date.	Washington Mean Time.	Position Angle.	Number of measures.	Weight.	Washington Mean Time.	Distance.	Number of measures.	Weight.	Observer.	Remarks.
1881.	h. m.	°			h. m.	″				
Nov. 20	13 11.4	71.83	4	3	13 19.4	45.87	4	3	H.	Very faint.
Dec. 16	9 57.8	247.06	4	3	10 3.8	53.15	4	3	H.	
16	10 24.8	248.18	4	3	10 29.3	53.67	4	3	H.	
17	13 14.8	246.01	4	3	13 22.3	44.05	4	3	H.	
17	14 15.3	246.97	4	2	14 21.3	49.17	4	2	H.	Very faint. Moisture on objective.
23	11 14.6	68.32	4	3	11 22.6	45.26	4	3	H.	
24	13 30.6	66.79	4	4	13 33.6	51.45	4	4	H.	
31	10 10.8	244.80	4	3	10 20.5	42.79	4	3	H.	

RESULTS OF OBSERVATIONS OF DOUBLE STARS.

Date.	Name of Star.	Approx. R. A.	Approx. N. P. D.	Position Angle.	Number of measures.	Distance.	Number of measures.	Weight.	Observer.	Remarks.
1881.		h. m.	° ′	°		″				
Oct. 21	Σ 3062	0 0.1	32 14	304.8	4	1.35	2	2	H.	
22				305.0	4	1.43	2	3	H.	
27				306.1	4	1.37	2	2	H.	
Nov. 16				306.3	4	1.47	2	3	H.	
Oct. 22	η Cassiopeæ	0 41.7	32 49	158.8	4	5.33	2	2	H.	
Nov. 16				161.6	4	5.25	2	2	H.	
Dec. 16				166.1	4	5.25	2	3	H.	
17				165.9	4	5.36	2	3	H.	
Oct. 22	Σ 191	1 52.1	16 45	193.8	4	5.72	2	2	H.	
Nov. 16				194.1	4	5.64	2	3	H.	
Dec. 16				193.6	4	5.50	2	3	H.	
17				193.5	4	5.37	2	3	H.	
Dec. 16	Σ 228	2 6.3	43 5	154.1	4	0.44	2	2	H.	
17				158.4	4	0.38	2	3	H.	
Feb. 17	0Σ 98	5 1.3	81 40	203.2	4	1.03	2	3	F.	
April 15	Castor	7 26.9	57 51	234.5	4	5.86	2	2	H.	
16				233.6	4	5.90	2	2	H.	
22				234.9	4	5.67	2	2	F.	
23				234.4	4	5.99	2	2	H.	
28				233.9	4	5.52	2	2	H.	Clouds.
29				233.8	4	5.74	2	2	H.	
30				235.2	4	5.77	2	3	H.	
May 11				235.2	4	5.30	2	2	F.	
April 15	ζ Cancri, A and B	8 5.3	71 59	80.5	4	0.69	2	3	H.	
15	$\frac{A+B}{2}$ and C.			131.8	4	5.47	2	2	H.	
				79.9	4	0.75	2	2	H.	
16				131.5	4	5.55	2	2	H.	
16				78.8	4	1.08	2	2	F.	
22				128.5	4	5.16	2	2	F.	
22				76.6	4	0.69	2	2	H.	
23				129.8	4	5.58	2	2	H.	
23										
April 15	ω Leonis	9 22.0	80 25	82.8	1	Clouds.		3	H.	
16				84.8	4	0.48	2	2	H.	
29				85.3	4	0.52	2	2	H.	
30				84.3	4	0.44	2	3	H.	
April 16	ξ Ursæ Majoris	11 11.8	57 47	269.5	4	1.90	2	2	H.	
22				270.0	4	1.83	2	3	F.	
23				266.3	4	1.86	2	2	H.	
29				267.8	4	1.78	2	2	H.	
30				270.0	4	1.82	2	2	H.	

RESULTS OF OBSERVATIONS OF DOUBLE STARS—Continued.

Date.	Name of Star.	Approx. R. A.	Approx. N. P. D.	Position Angle.	Number of measures.	Distance.	Number of measures.	Weight.	Observer.	Remarks.
1881.		h. m.	° ′	°		″				
lay 1	ξ Ursæ Majoris	11 11.8	57 47	269.5	4	1.83	2	3	H.	
11				266.1	4	1.78	2	2	F.	
20				270.5	4	1.88	2	3	H.	
21				270.7	4	1.94	2	2	F.	
24				271.0	4	1.82	2	3	H.	
pril 23	γ Virginis	12 36.6	90 55	156.7	4	5.33	2	2	H.	
27				156.3	4	5.34	2	2	H.	
lay 20				159.3	4	5.28	2	2	H.	
21				155.9	4	5.12	2	2	F.	
23				158.5	4	5.36	2	2	H.	
lay 20	42 Comæ Berenice	13 4.2	71 50	193.9	4	0.46	2	2	H.	
21				193.5	4	0.94	2	2	F.	
23				193.1	4	0.50	2	3	H.	
24				190.6	4	0.52	2	2	H.	
25				192.8	4	0.65	2	2	H.	
ıne 18				196.8	4	0.99	2	3	F.	
ıne 16	Σ 1757	13 28.2	89 42	69.9	4	2.16	2	2	F.	
18				66.9	4	2.22	2	3	F.	
lay 26	25 Canum Venat	13 32.1	53 6	155.3	4	0.60	2	2	H.	
27				159.2	4	0.54	2	2	H.	Images blurred.
28				157.6	4	0.46	2	3	H.	
lay 24	Σ 1785	13 43.6	62 25	218.2	4	1.87	2	3	H.	
25				217.4	4	1.97	2	3	H.	
lay 20	Σ 1819	14 9.3	86 18	15.6	4	1.22	2	3	H.	
23				16.4	4	1.28	2	3	H.	
24				14.6	4	1.28	2	3	H.	
26				16.2	4	1.25	2	3	H.	
ıne 16				15.8	4	1.57	2	2	F.	
18				21.8	4	1.44	2	2	F.	
lay 24	ξ Bootis	14 45.8	70 24	268.8	4	4.05	2	3	H.	
25				268.6	4	4.04	2	3	H.	
26				270.3	4	4.02	2	3	H.	
ıne 16				273.0	4	3.87	2	2	F.	
lay 24	44 Bootis	14 59.9	41 53	241.7	4	4.91	2	3	H.	
25				241.4	4	4.96	2	2	H.	
lay 24	η Coronæ Borealis	15 18.3	59 17	125.6	4	0.43	2	3	H.	
25				126.8	4	0.42	2	2	H.	
26				124.5	4	0.46	2	3	H.	
27				122.8	4	0.55	2	2	H.	
lay 26	μ_2 Bootis	15 20.0	52 14	122.4	4	0.63	2	3	H.	
27				121.3	4	0.59	2	2	H.	
28				122.1	4	0.65	2	3	H.	
ıne 8				125.7	4	0.77	2	2	F.	
18				127.3	4	0.98	2	2	F.	
ıne 13	μ Bootis	15 20.0	52 14	171.35	4	108.29	2	2	H.	
15				171.48	4	108.28	2	2	H.	
16				171.45	4	108.62	2	2	F.	
18				171.75	4	108.06	2	2	F.	
lay 26	0Σ 298	15 31.6	49 47	172.4	4	0.32	2	3	H.	
28				178.7	4	0.39	2	3	H.	
30				175.0	4	0.33	2	3	H.	
ıne 13	σ Coronæ Borealis	16 10.3	55 50	203.3	4	3.70	2	2	H.	
15				203.0	4	3.60	2	2	H.	
22				202.7	4	3.62	2	3	H.	
ıly 9	λ Ophiuchi	16 24.9	87 45	40.7	4	1.45	2	3	H.	
12				38.1	4	1.37	2	2	H.	
14				36.0	4	1.49	2	2	H.	
.ug. 2				36.0	4	1.43	2	2	H.	

RESULTS OF OBSERVATIONS OF DOUBLE STARS—Continued.

Date.	Name of Star.	Approx. R. A.	Approx. N. P. D.	Position Angle.	Number of measures.	Distance.	Number of measures.	Weight.	Observer.	Remarks.
1881.		h. m.	° ′	°		″				
June 22	ζ Herculis	16 36.8	58 11	110.3	4	1.49	2	2	H.	Blurred images.
July 2				110.8	4	1.40	2	3	H.	
5				110.4	4	1.59	2	2	H.	
9				111.5	4	1.27	2	3	H.	
12				109.8	4	1.40	2	2	H.	
July 9	Σ 2107	16 47.1	61 8	229.5	4	0.49	2	3	H.	
14				227.8	4	0.38	2	2	H.	
June 22	Σ 2120	17 0	61 44	253.8	4	5.36	2	2	H.	
July 2				252.9	4	5.46	2	3	H.	
5				251.1	4	5.26	2	2	H.	
15				251.5	4	5.34	2	2	F.	
July 9	Σ 2173	17 24.2	90 58	301.5	4	0.27	2	2	H.	Not separated.
July 2	μ¹ Herculis	17 42.	62 12	249.8	4	1.00	2	2	H.	
9				250.6	4	1.10	2	3	H.	
14				250.5	4	1.12	2	2	H.	
Aug. 2				245.5	4	0.93	2	2	H.	
3				249.0	4	0.89	2	2	H.	
July 9	τ Ophiuchi	17 56.5	98 11	251.3	4	1.75	2	3	H.	
19				251.0	4	1.66	2	2	H.	
Aug. 2				251.6	4	1.73	2	2	H.	
July 5	70 Ophiuchi	17 59.4	87 27	61.0	4	2.67	2	2	H.	
9				62.3	4	2.40	2	3	H.	
12				60.6	4	2.46	2	2	H.	
14				60.2	4	2.46	2	2	H.	
15				56.1	4	2.42	2	2	F.	
Aug. 2				59.2	4	2.49	2	2	H.	
July 14	α Lyræ	18 32.9	51 20	155.75	4	48.93	2	2	H.	
Aug. 2				155.78	4	49.04	2	2	H.	
5				155.65	4	48.87	2	3	H.	
12				155.65	4	48.82	2	3	H.	
15				155.50	4	48.97	2	2	H.	
16				155.80	4	48.89	2	3	H.	
20				292.9	4	51.47	2	2	H.	14–15 mag. Comp. found by G. A. July 2, 1881.
Aug. 2	δ Cygni	19 41.2	45 10	329.3	4	1.58	2	2	H.	
3				330.6	4	1.83	2	2	H.	Distance poor.
5				327.8	4	1.60	2	2	H.	
Aug. 2	0 387	19 44.3	55 00	189.0	4	. .	.	2	H.	
12				192.6	4	0.50	2	3	H.	
July 24	61 Cygni	21 1.1	51 53	117.7	4	20.18	2	3	H.	
25				117.4	4	20.18	2	2	H.	
Aug. 12				118.6	4	20.20	2	3	H.	
15				118.9	4	20.10	2	2	H.	
16				118.5	4	20.22	2	3	H.	

OBSERVATIONS

MADE WITH THE

9.6-INCH EQUATORIAL.

1881.

THE 9.6-INCH EQUATORIAL.

This instrument was under the direction of Prof. J. R. EASTMAN, assisted by the other observers on the Transit Circle, and was employed during 1881 in the observation of comets, occultations by the moon, and in the determination of the approximate corrections to the ephemerides of many of the minor planets.

Much time and labor was devoted to searching for those minor planets whose ephemerides were considerably in error, and in a large majority of cases no record of such work appears in the observing book.

In the compilation of the observations during the year the work is recorded according to date, together with the observer's notes made at the time.

OBSERVATIONS MADE WITH THE 9.6-INCH EQUATORIAL IN 1881.

Date.	Observer.	Observations.
1881. June 11	E.	Observed Immersion of B. A. C. 5862 at $10^h\ 55^m\ 55^s.0$, W. M. T. Observation very uncertain. Eclipse of the Moon. *Sure* of first contact at $12^h\ 4^m\ 0^s$, W. M. T. Time estimated to be about one minute late.
June 24	S.	Comet (*b*) 1881 was plainly seen soon after midnight, but clouds prevented any comparisons with a star. The following approximate position was derived from the circles: June 24. 654, W. M. T. $\alpha = 5^h\ 39^m\ 14^s$ $\delta = +\ 50°\ 59'.3$.
June 26	E.	Compared Comet (*b*) 1881 with O. A. N. 6297. Observed *five* sets of *transits* of star and comet and five *bisections* of each object. Concluded position of comet at $8^h\ 44^m\ 49^s.6$, W. M. T. α of comet $= \alpha$ of star $+\ 1^m\ 9^s.64$ δ of comet $= \delta$ of star $+\ 0\ \ 15''.6$
July 24	E.	Found Comet (*c*) 1881. Clouds prevented comparison with star. The approximate position derived from the circles was at $15^h\ 28^m.1$, W. M. T. $\alpha, = 6^h\ 6^m.3$; $\delta, = +\ 42°\ 43'$.
July 28	E.	Compared Comet (*c*) 1881 with a following star 9.5 magnitude. Approximate position of star from circles was $6^h\ 19^m\ 25^s + 44°\ 38'.7$, and it is probably D. M. + 44°, 1451. α of comet $= \alpha$ of star $-\ 1^m\ 3^s.26$ δ of comet $= \delta$ of star $-\ 1'\ 56''.7$

CORRECTIONS

TO THE

NORTH-POLAR DISTANCES

OF

TARS OF THE AMERICAN EPHEMERIS,

GIVEN BY

OBSERVATIONS WITH THE TRANSIT CIRCLE.

1881.

CORRECTIONS

TO THE

NORTH-POLAR DISTANCES OF STARS OF THE AMERICAN EPHEMERIS,

GIVEN BY

OBSERVATIONS WITH THE TRANSIT CIRCLE IN 1881.

NOTE.—The North-Polar Distance for each star is taken from the American Ephemeris for 1881.0.

; ANDROMEDÆ . .				h. m. s. 0 2 14 / ° ′ ″ 61 33 59.89
				″
an.	27	R.	—	0.6
'eb.	4	R.	+	1.1
	5	W.	+	1.6
	12	R.	—	1.1
	14	E.	+	0.7
	16	R.	+	1.8
	17	W.		0.0
	24	R.	+	1.5
March	7	S.	—	0.2
April	22	E.	+	0.5
	27	S.		0.0
	29	W.	—	2.0
May	8	E.		0.0
une	19	S.	+	0.1
uly	28	E.	+	2.1
Aug.	23	R.	+	2.8
Sept.	24	R.	+	0.8
	30	R.	+	1.4
Oct.	6	R.	+	1.8
	10	R.	—	1.4
	20	E.	+	1.1
Nov.	4	W.	+	1.7
	5	E.	+	2.5
	8	W.	+	1.2
	16	W.	+	0.7
	22	S.	+	0.6
Dec.	5	R.	+	1.1
Mean			+	0.84
Div., Flex., etc. . . .			—	0.53

α ANDROMEDÆ (Ref.).

				″
Aug.	23	R.	—	0.1
Div., Flex., etc. . . .			+	0.45

PEGASI				h. m. s. 0 7 7 / ° ′ ″ 75 28 41.17
				″
eb.	5	W.	+	2.9
	12	R.	+	1.1
	16	R.	+	2.4
	24	R.	+	2.1
April	22	E.	+	0.3
	29	W.	—	0.9
May	8	E.	—	0.7
	19	S.	—	0.4
uly	22	R.	+	1.6
	28	E.	+	2.1
Oct.	1	S.	+	0.1
	6	R.	+	1.7
	20	E.	+	2.0

γ PEGASI—Continued.

				″
Nov.	5	E.	+	3.2
	8	W.	—	0.6
	16	W.	+	1.6
	28	W.	+	1.5
Mean			+	1.18
Div., Flex., etc. . . .			—	0.80

γ PEGASI (Ref.).

				″
Nov.	28	W.	+	1.0
Div., Flex., etc. . . .			+	0.52

12 CETI				h. m. s. 0 23 58 / ° ′ ″ 94 36 53.93
				″
July	22	R.	+	1.7
Sept.	24	R.	+	1.9
	30	R.	+	1.5
Nov.	4	W.	+	2.3
	14	S.	—	0.1
Dec.	1	R.	+	1.0
	17	R.	+	1.6
Mean			+	1.41
Div., Flex., etc. . . .			—	0.45

α CASSIOPEÆ . . .				h. m. s. 0 33 46 / ° ′ ″ 34 6 56.10
				″
Feb.	6	E.	+	1.9
	12	R.	—	0.1
	16	R.	+	0.7
	24	R.	+	1.8
July	22	R.	+	1.6
	23	W.	+	1.1
Sept.	30	R.	+	1.7
Oct.	6	R.	+	1.8
	26	R.	+	1.7
Dec.	1	R.	+	1.9
Mean			+	1.41
Div., Flex., etc. . . .			—	1.36

α CASSIOPEÆ (Ref.).

				″
Feb.	6	E.	—	3.7
Sept.	30	R.	+	0.2
Dec.	1	R.	—	0.2
Mean			—	1.23
Div., Flex., etc. . . .			+	1.11

β CETI				h. m. s. 0 37 37 / ° ′ ″ 108 38 24.37
				″
Feb.	4	R.	+	2.5
	5	W.	+	3.0
	6	E.	+	1.1
	16	R.	+	1.3
April	22	E.	+	0.5
	25	W.	—	0.1
	29	W.	—	1.5
May	8	E.	—	0.6
	9	S.	+	0.2
June	19	S.	—	0.9
July	22	R.	+	1.9
	23	W.	+	1.3
	30	R.	+	1.8
Oct.	11	W.	+	1.3
	20	E.	+	2.1
	21	S.	+	1.7
Nov.	4	W.	+	1.7
	14	S.	+	1.5
	25	E.	+	1.9
Dec.	5	R.	+	1.4
	17	R.	+	1.9
	27	E.	+	0.5
Mean			+	1.11
Div., Flex., etc. . . .			—	0.46

21 CASSIOPEÆ, S. P.				h. m. s. 0 37 49 / ° ′ ″ 344 20 14.26
				″
May	9	E.	+	0.3
	10	S.	+	0.7
	25	E.	+	1.2
	28	W.	+	1.5
Mean			+	0.92
Div., Flex., etc. . . .			—	1.57

ε PISCIUM				h. m. s. 0 56 46 / ° ′ ″ 82 45 3.26
				″
Feb.	6	E.	+	0.5
July	22	R.	+	0.8
	23	W.	+	0.9
	27	W.	+	1.4
	28	E.	+	2.4
Oct.	15	W.	+	2.0
	20	E.	+	0.8

ε PISCIUM—Continued.

				″
Nov.	14	S.	—	0.4
Dec.	27	E.	+	0.6
Mean			+	1.00
Div., Flex., etc. . . .			—	0.84

β ANDROMEDÆ . .				h. m. s. 1 3 4 / ° ′ ″ 55 0 38.82
				″
Jan.	28	W.	+	0.9
Feb.	4	R.	+	2.2
	16	R.	+	2.2
	17	W.	+	1.3
	24	R.	+	2.4
March	7	S.	+	1.0
	25	W.	+	0.1
	28	R.	+	0.9
April	25	W.	+	0.5
	29	W.	+	0.4
May	9	S.	+	1.8
	11	W.	+	1.7
July	18	R.	+	1.3
	22	R.	+	0.9
	23	W.	+	1.9
	28	E.	+	3.0
Oct.	11	W.	+	1.2
	15	W.	+	2.7
	21	S.	+	0.8
	26	R.	+	2.3
Nov.	14	S.	+	0.1
	25	E.	+	2.1
Dec.	1	R.	+	0.7
	15	E.	+	3.8
	27	E.	+	1.5
Mean			+	1.51
Div., Flex., etc. . . .			—	0.50

POLARIS				h. m. s. 1 15 8 / ° ′ ″ 1 19 32.04
				″
Feb.	4	R.	+	0.5
	5	W.	+	2.0
	6	E.	+	0.6
	12	R.	—	0.5
	14	E.	—	0.9
	16	R.	+	2.1
	17	W.	+	1.0
	24	R.	+	1.6
Mar.	7	S.	+	0.4

Polaris—Continued.

				″
March	24	R.	−	0.3
	25	W.	+	0.3
	28	R.	+	1.1
April	10	E.	+	0.8
	14	E.	+	0.1
	22	E.	−	0.8
	25	W.	+	1.0
	27	S.	−	0.1
	29	W.	−	0.2
May	8	E.	+	0.6
	9	S.	−	0.7
	11	W.	+	2.0
	24	E.	+	2.0
July	18	R.	+	2.1
	22	R.	+	2.7
	23	W.	+	1.9
	27	W.	+	2.9
	28	E.	−	3.0
Oct.	10	R.	+	0.7
	11	W.	+	2.1
	15	W.	−	2.2
	20	E.	+	2.9
	21	S.	−	1.6
	22	R.	+	1.3
	25	S.	+	1.5
	26	R.	+	1.3
Nov.	4	W.	+	1.6
	5	E.	+	1.4
	14	S.	+	1.5
	15	R.	+	1.2
	16	W.	+	0.6
	22	S.	+	1.4
	25	E.	+	0.7
	28	W.	+	3.3
Dec.	1	R.	+	1.3
	5	R.	+	2.2
	10	W.	+	2.9
	15	E.	+	1.9
	17	R.	+	1.9
	27	E.	+	1.7
	28	S.	+	4.0
	31	E.	+	1.0
Mean			+	1.38
Div., Flex., etc.			−	1.43

	°	′	″
Polaris, S. P.	358	40	27.96

				″
Feb.	16	R.	−	0.8
March	29	W.	+	2.6
April	4	S.	+	2.2
	10	W.	+	2.6
	16	S.	−	0.9
	22	W.	+	1.2
	23	E.	+	2.9
	28	S.	+	2.5
	29	R.	+	0.8
	30	W.	+	1.3
May	7	R.	+	0.5
	8	W.	+	1.3
	9	E.	+	1.1
	10	S.	+	0.6
	12	W.	−	1.0
	16	W.	+	2.0
	20	W.	+	3.0
	24	W.	+	2.5
	25	E.	+	2.0
	27	R.	+	2.3
	28	W.	+	2.6
June	8	R.	+	0.7
	13	W.	+	2.1
	21	W.	+	1.0
July	3	W.	+	0.2
	31	W.		0.0
Aug.	23	R.	−	0.1
	27	R.	−	0.2
Sept.	24	R.	+	1.9
Oct.	10	R.	+	2.1
	11	W.	+	4.4
	13	R.	+	2.6
	16	S.	+	0.5

Polaris, S. P.—Continued.

				″
Oct.	17	R.	+	0.5
	18	W.	+	0.1
	20	S.	+	1.8
	21	R.	−	1.5
	24	S.	+	0.3
Nov.	3	W.	−	1.0
	13	S.	+	0.7
	14	R.	−	0.2
	15	R.	+	2.7
	15	W.	+	1.5
	16	E.	+	0.8
	24	E.	+	0.8
Dec.	15	E.	+	2.9
	16	S.	+	0.7
Mean			+	1.31
Div., Flex., etc.			−	1.45

	h.	m.	s.
η Piscium	1	25	7
	°	′	″
	75	16	5.25

				″
Feb.	5	W.	+	1.5
	6	E.	−	1.0
	12	R.	+	0.7
July	18	R.	+	2.0
	23	W.	+	2.1
	27	W.	+	2.1
Oct.	10	R.	+	1.7
	11	W.	+	1.3
	15	W.	+	1.2
	22	R.	+	2.7
	25	E.	+	2.7
Nov.	28	W.	+	2.4
Dec.	5	R.	+	2.0
	27	E.	+	1.0
Mean			+	1.60
Div., Flex., etc.			−	0.80

	h.	m.	s.
o Piscium	1	39	7
	°	′	″
	81	26	30.75

				″
July	18	R.	+	0.5
	22	R.	+	0.8
	23	W.	+	0.4
	27	W.	+	0.9
Oct.	10	R.	−	0.6
	11	W.	+	0.2
	15	W.	−	0.6
	22	R.	+	0.8
	25	S.	+	0.1
Nov.	25	E.	+	1.8
Dec.	5	R.	−	0.1
	7	E.	+	0.5
	15	E.	−	0.1
	17	R.	+	0.8
	28	S.	+	0.6
	31	E.	+	1.7
Mean			+	0.44
Div., Flex., etc.			−	0.82

	h.	m.	s.
β Arietis	1	48	4
	°	′	″
	69	46	27.54

				″
Feb.	4	R.	+	1.8
	5	W.	+	2.1
	6	E.	+	1.5
	12	R.	+	0.9
March	11	S.	+	0.5
	25	W.	+	0.5

β Arietis—Continued.

				″
July	18	R.	+	0.5
	22	R.	+	1.1
	27	W.	+	2.1
Oct.	10	R.	−	0.6
	11	W.	+	0.7
	25	S.	+	0.0
Nov.	5	E.	+	2.0
	24	W.	+	1.0
Dec.	7	E.	−	0.2
	10	W.	+	0.3
	15	E.	+	0.4
	28	S.	+	1.7
	31	E.		0.0
Mean			+	0.86
Div., Flex., etc.			−	0.63

β Arietis (Ref.).

				″
July	22	R.	+	0.3
Div., Flex., etc.			+	0.45

	h.	m.	s.
50 Cassiopeæ	1	53	18
	°	′	″
	18	9	20.04

				″
Oct.	10	R.	+	0.7
	15	W.	+	2.8
Nov.	24	W.	+	1.6
Dec.	5	R.	+	2.9
Mean			+	2.00
Div., Flex., etc.			−	1.55

50 Cassiopeæ (Ref.).

				″
Oct.	10	R.	+	0.9
	15	W.	−	1.0
Dec.	5	R.	+	1.0
Mean			+	0.30
Div., Flex., etc.			+	1.53

	°	′	″
50 Cassiopeæ, S. P.	341	50	39.96

				″
Jan.	23	R.	+	2.7
May	27	R.	+	2.8
Mean			+	2.75
Div., Flex., etc.			−	1.49

	h.	m.	s.
α Arietis	2	0	28
	°	′	″
	67	6	3.62

				″
Jan.	17	E.	+	1.8
Feb.	4	R.	+	0.8
	5	W.	+	1.0
	6	E.	+	0.1
	12	R.	−	0.7
	16	R.	+	2.0
	17	W.	−	0.1
March	11	S.	+	0.5
	24	R.	+	1.5
	25	W.	+	2.0
	28	R.	+	2.0
May	9	S.	+	0.6
	11	W.	−	1.4
	24	E.	−	0.3
	26	R.	+	0.2

α Arietis—Continued.

				″
May	27	W.	+	1.0
	30	R.	+	1.5
July	27	W.	+	1.5
Oct.	11	W.	+	2.8
	22	R.	+	2.0
	26	R.	+	1.4
	27	W.	+	2.3
Nov.	5	E.	+	1.8
	16	W.	−	0.2
	24	W.	+	0.2
Dec.	7	E.	+	0.5
	10	W.	+	0.1
	28	S.	−	1.4
	31	E.	+	0.9
Mean			+	0.94
Div., Flex., etc.			−	0.57

α Arietis (Ref.).

				″
Feb.	5	W.	+	1.1
	6	E.	+	1.2
July	27	W.	+	1.0
Oct.	11	W.	+	1.7
Mean			+	0.75
Div., Flex., etc.			+	0.45

	h.	m.	s.
ξ¹ Ceti	2	6	42
	°	′	″
	81	42	44.10

				″
Jan.	17	E.	+	1.0
Oct.	26	R.	+	0.6
	27	W.	+	2.1
Nov.	5	E.	+	1.5
	24	W.	+	0.1
Dec.	7	E.	+	0.2
	9	R.	+	1.1
	15	E.	+	0.9
Mean			+	0.94
Div., Flex., etc.			−	0.83

	h.	m.	s.
ξ² Ceti	2	21	50
	°	′	″
	82	4	27.02

				″
Feb.	5	W.	+	2.0
Nov.	16	W.	+	0.4
Dec.	9	R.	+	0.1
	10	W.	+	1.2
	28	S.	+	0.5
Mean			+	0.80
Div., Flex., etc.			−	0.84

	h.	m.	s.
γ Ceti	2	37	8
	°	′	″
	87	15	59.60

				″
Jan.	17	E.	+	1.9
March	25	W.	+	0.4
Oct.	27	W.	+	2.4
Nov.	5	E.	+	1.5
	15	R.	+	0.9
	24	W.	+	2.3
Dec.	9	R.	+	1.0
	20	S.	+	0.5
Mean			+	1.36
Div., Flex., etc.			−	0.60

γ Ceti (Ref.).

			″
Nov.	24	W.	− 0.1
Div., Flex., etc.			+ 0.61

α Ceti . . . . . h. m. s. 2 56 4; ° ′ ″ 86 22 41.04

			″
Jan.	17	E.	+ 1.3
Feb.	6	E.	+ 1.0
March	24	R.	+ 1.7
	28	R.	+ 1.7
May	24	E.	+ 2.4
	26	R.	− 1.9
	30	R.	− 1.0
June	10	S.	+ 1.6
	15	R.	− 0.4
	17	E.	− 0.4
July	18	R.	+ 1.2
Nov.	15	R.	+ 1.4
	16	W.	− 0.2
Dec.	2	W.	− 2.3
	9	R.	+ 0.8
	10	W.	+ 0.6
Mean			+ 0.76
Div., Flex., etc.			− 0.68

48 Cephei . . . . h. m. s. 3 5 16; ° ′ ″ 12 42 17.88

			″
Oct.	22	R.	+ 2.6
	27	W.	+ 3.7
Nov.	16	W.	+ 1.6
	27	R.	+ 2.0
Mean			+ 2.48
Div., Flex., etc.			− 1.61

48. Cephei (Ref.).

			″
Oct.	22	R.	+ 1.0
	27	W.	+ 0.9
Nov.	16	W.	− 2.3
Mean			− 0.13
Div., Flex., etc.			+ 1.29

			° ′ ″
48 Cephei, S. P.			347 17 42.12

			″
June	8	R.	+ 1.4
	18	E.	+ 3.6
July	1	S.	+ 2.4
	9	S.	+ 2.4
Mean			+ 2.45
Div., Flex., etc.			− 1.65

ζ Arietis . . . . . h. m. s. 3 8 4; ° ′ ″ 69 23 51.55

			″
Jan.	22	S.	+ 1.4
Feb.	6	E.	+ 0.6
Oct.	15	W.	+ 1.8
Nov.	15	R.	+ 1.4
Dec.	2	W.	+ 2.4
	20	S.	+ 1.4
Mean			+ 1.50
Div., Flex., etc.			− 0.62

ζ Arietis (Ref.).

			″
Nov.	15	R.	+ 1.4
Div., Flex., etc.			+ 0.45

α Persei . . . . . h. m. s. 3 15 50; ° ′ ″ 40 33 49.69

			″
March	25	W.	− 0.1
	28	R.	0.0
May	27	W.	+ 2.1
	30	R.	− 0.1
June	10	S.	+ 1.2
	15	R.	− 0.8
	23	R.	− 1.1
Nov.	27	R.	− 0.4
Dec.	2	W.	+ 2.6
	9	R.	0.0
Mean			+ 0.36
Div., Flex., etc.			− 1.33

α Persei (Ref.).

			″
Dec.	2	W.	+ 1.3
Div., Flex., etc.			+ 0.97

ε Eridani . . . . h. m. s. 3 27 19; ° ′ ″ 99 51 42.65

			″
Dec.	2	W.	+ 3.3
	31	E.	+ 2.3
Mean			+ 2.80
Div., Flex., etc.			− 0.42

δ Persei . . . . . h. m. s. 3 34 27; ° ′ ″ 42 35 40.30

			″
March	6	E.	− 0.3
April	2	W.	+ 2.3
June	20	W.	− 0.4
Oct.	26	R.	+ 1.5
Nov.	15	R.	0.0
	27	R.	+ 0.9
Dec.	2	W.	+ 1.4
	7	E.	+ 1.3
	20	S.	+ 1.4
Mean			− 0.90
Div., Flex., etc.			− 1.28

η Tauri . . . . . h. m. s. 3 40 25; ° ′ ″ 66 15 50.88

			″
March	6	E.	+ 0.9
April	2	W.	+ 1.9
	23	E.	+ 2.3
June	17	E.	+ 1.2
	19	R.	+ 2.4
	20	W.	− 0.3
	23	R.	0.8
July	5	R.	+ 1.2
Oct.	15	W.	+ 1.7
	26	R.	+ 0.9
Nov.	15	R.	+ 0.3
	25	E.	+ 0.9
	27	R.	+ 1.1

η Tauri—Continued.

			″
Dec.	2	W.	+ 1.8
	7	E.	− 0.9
	15	E.	+ 1.6
	23	E.	0.0
	31	E.	+ 0.9
Mean			+ 0.85
Div., Flex., etc.			− 0.55

ζ Persei . . . . . h. m. s. 3 46 39; ° ′ ″ 58 28 16.42

			″
March	6	E.	− 1.1
April	2	W.	+ 0.7
	15	E.	+ 0.2
	23	E.	− 0.4
	28	S.	+ 2.2
June	10	S.	+ 1.2
	17	E.	+ 0.1
	19	R.	− 0.2
	20	W.	+ 0.6
July	5	R.	− 0.1
Oct.	15	W.	+ 0.3
	26	R.	+ 2.5
Nov.	25	E.	+ 0.2
	27	R.	+ 1.2
Dec.	2	W.	+ 1.1
	7	E.	− 0.4
	15	E.	+ 0.3
	20	S.	− 0.6
	23	E.	− 0.5
	31	E.	+ 2.4
Mean			+ 0.48
Div., Flex., etc.			− 0.34

ζ Persei (Ref.).

			″
Oct.	26	R.	+ 1.0
Dec.	2	W.	+ 0.3
Mean			+ 0.65
Div., Flex., etc.			+ 0.40

γ¹ Eridani . . . h. m. s. 3 52 29; ° ′ ″ 103 50 53.08

			″
Jan.	22	S.	− 0.5
Feb.	6	E.	+ 0.4
March	6	E.	+ 0.7
June	17	E.	+ 0.7
	19	R.	− 1.3
Aug.	19	R.	+ 0.9
Oct.	15	W.	+ 1.4
Nov.	25	E.	+ 0.9
	27	R.	+ 1.8
Dec.	7	E.	+ 0.5
	15	E.	+ 1.7
	20	S.	+ 2.2
	23	E.	0.0
	31	E.	+ 0.9
Mean			+ 0.74
Div., Flex., etc.			− 0.52

γ Tauri . . . . . h. m. s. 4 13 1; ° ′ ″ 74 39 39.71

			″
Jan.	27	R.	+ 2.2
Feb.	6	E.	+ 1.3

γ Tauri—Continued.

			″
June	29	E.	+ 1.6
July	1	R.	+ 1.7
	7	E.	+ 1.5
Aug.	19	R.	+ 1.6
Nov.	24	W.	+ 1.9
	25	E.	− 3.3
Dec.	1	R.	+ 1.7
	31	E.	1.6
Mean			+ 1.84
Div., Flex., etc.			− 0.79

ε Tauri . . . . . h. m. s. 4 21 40; ° ′ ″ 71 5 5.68

			″
Jan.	27	R.	+ 1.0
March	6	E.	+ 0.8
July	7	E.	+ 2.2
Nov.	24	W.	+ 1.4
	25	E.	+ 2.4
	27	R.	+ 2.3
Dec.	1	R.	+ 0.2
Mean			+ 1.47
Div., Flex., etc.			− 0.70

ε Tauri (Ref.).

			″
Nov.	25	E.	+ 0.3
	27	R.	+ 0.8
Mean			+ 0.55
Div., Flex., etc.			+ 0.46

α Tauri . . . . . h. m. s. 4 29 6; ° ′ ″ 73 43 52.79

			″
March	6	E.	+ 0.4
April	23	E.	+ 0.9
May	9	E.	+ 2.9
	10	S.	+ 2.7
June	15	R.	+ 0.5
	19	R.	+ 1.7
	20	W.	+ 1.6
	23	R.	+ 0.6
	29	E.	+ 2.2
July	7	E.	+ 2.3
	13	R.	+ 2.0
Aug.	19	R.	+ 1.9
Nov.	24	W.	+ 1.7
Dec.	1	R.	+ 2.1
	10	W.	+ 2.9
Mean			+ 1.76
Div., Flex., etc.			− 0.78

α Tauri (Ref.).

			″
Aug.	19	R.	+ 0.6
Div., Flex., etc.			+ 0.49

α Camelopardalis . h. m. s. 4 42 14; ° ′ ″ 23 51 43.08

			″
Jan.	28	W.	− 1.6
Aug.	19	R.	+ 1.9
Nov.	24	W.	− 1.2
Dec.	1	R.	+ 2.1
Mean			+ 1.70
Div., Flex., etc.			− 1.58

α CAMELOPARDALIS (Ref.).

			″
Jan.	28	W.	− 1.3
Div., Flex., etc.			+ 1.46

α CAMELOPARDALIS, S. P. 336° 8′ 16″.92

			″
June	26	E.	+ 1.2
	28	R.	− 0.5
Mean			+ 0.35
Div., Flex., etc.			− 1.23

ι AURIGÆ . . . . . h. m. s. 4 49 15; ° ′ ″ 57 1 26.19

			″
March	6	E.	− 0.1
May	9	E.	+ 2.0
June	20	W.	+ 2.3
July	1	R.	+ 0.1
	7	E.	+ 1.1
	17	R.	+ 0.6
Aug.	19	R.	+ 1.0
Dec.	5	R.	+ 0.8
Mean			+ 0.98
Div., Flex., etc.			− 0.33

11 ORIONIS . . . . . h. m. s. 4 57 46; ° ′ ″ 74 45 47.18

			″
Jan.	27	R.	+ 0.3
	28	W.	+ 0.9
Dec.	5	R.	− 0.1
	10	W.	+ 0.2
Mean			+ 0.32
Div., Flex., etc.			− 0.79

α AURIGÆ . . . . . h. m. s. 5 7 54; ° ′ ″ 44 7 29.8

			″
Jan.	28	W.	+ 0.7
May	9	E.	+ 1.2
June	15	R.	+ 0.6
	19	R.	+ 1.3
	20	W.	+ 1.7
	23	R.	− 1.4
July	1	R.	− 0.6
	4	S.	+ 0.5
	5	R.	+ 0.3
	6	W.	+ 0.6
	7	E.	+ 1.1
	10	W.	+ 2.2
	13	R.	+ 1.7
	15	E.	+ 0.6
	17	R.	+ 0.6
Aug.	19	R.	+ 1.5
Dec.	5	R.	− 0.3
Mean			+ 0.72
Div., Flex., etc.			− 1.26

β ORIONIS . . . . . h. m. s. 5 8 49; ° ′ ″ 98 20 25.27

			″
April	28	S.	+ 3.4
May	1	E.	− 0.9

β ORIONIS— Continued.

			″
May	10	S.	+ 2.1
June	29	E.	+ 0.5
July	4	S.	+ 1.3
	7	E.	+ 1.1
	13	R.	− 1.1
	15	E.	+ 1.5
	17	R.	+ 0.8
Dec.	1	R.	+ 2.0
	10	W.	+ 1.6
Mean			+ 1.12
Div., Flex., etc.			− 0.34

β ORIONIS (Ref.).

			″
Dec.	1	R.	+ 1.1
Div., Flex., etc.			+ 0.54

β TAURI . . . . . h. m. s. 5 18 46; ° ′ ″ 61 29 40.97

			″
Jan.	22	S.	+ 1.3
	27	R.	+ 0.5
Feb.	17	W.	+ 1.8
	19	S.	+ 1.2
May	1	E.	+ 0.1
	9	E.	+ 1.4
	10	S.	+ 2.0
July	1	R.	− 0.5
	5	R.	+ 0.3
	15	E.	+ 1.9
	17	R.	+ 0.1
	18	W.	+ 1.4
	27	E.	+ 0.9
Oct.	27	W.	+ 1.4
Dec.	10	W.	+ 0.3
	17	R.	+ 1.6
Mean			+ 0.98
Div., Flex., etc.			− 0.52

β TAURI (Ref.).

			″
Jan.	27	R.	− 0.6
Div., Flex., etc.			+ 0.45

GROOMBRIDGE 966 . h. m. s. 5 23 50; ° ′ ″ 15 2 18.36

			″
Dec.	1	R.	+ 1.5
	17	R.	+ 0.9
Mean			+ 1.20
Div., Flex., etc.			− 1.54

GROOMBRIDGE 966, S.P. 344° 57′ 41″.64

			″
May	27	R.	+ 1.9
June	12	R.	+ 2.2
	26	E.	+ 1.0
	28	R.	+ 1.4
	29	W.	+ 2.1
July	2	R.	+ 3.6
	5	S.	+ 1.5
Mean			+ 1.96
Div., Flex., etc.			− 1.58

δ ORIONIS . . . . . h. m. s. 5 25 56; ° ′ ″ 90 23 18.84

			″
Jan.	28	W.	− 0.4
Feb.	19	S.	+ 0.2
March	2	E.	+ 0.3
July	5	R.	+ 2.3
	13	R.	+ 0.9
	17	R.	+ 2.6
	18	W.	+ 0.5
	27	E.	+ 0.7
Oct.	27	W.	+ 1.0
Mean			+ 0.90
Div., Flex., etc.			− 0.50

α LEPORIS . . . . . h. m. s. 5 27 29; ° ′ ″ 107 54 30.98

			″
Dec.	5	R.	− 0.1
Div., Flex., etc.			− 0.45

ε ORIONIS . . . . . h. m. s. 5 30 11; ° ′ ″ 91 16 45.25

			″
Jan.	28	W.	0.0
Feb.	16	R.	− 1.3
	17	W.	+ 1.8
	19	S.	− 0.4
July	4	S.	+ 1.1
	5	R.	+ 1.7
	10	W.	+ 1.8
	17	R.	+ 1.2
	18	W.	+ 1.5
	27	E.	+ 2.1
Oct.	27	W.	+ 0.1
Dec.	17	R.	+ 1.9
Mean			+ 0.96
Div., Flex., etc.			− 0.47

ε ORIONIS (Ref.).

			″
Feb.	16	R.	0.0
	17	W.	+ 0.1
Mean			+ 0.05
Div., Flex., etc.			+ 0.60

α COLUMBÆ . . . . h. m. s. 5 35 20; ° ′ ″ 124 8 18.51

			″
Feb.	17	W.	− 0.2
Dec.	5	R.	− 1.1
	17	R.	− 0.3
Mean			− 0.53
Div., Flex., etc.			− 0.16

α ORIONIS . . . . . h. m. s. 5 48 44; ° ′ ″ 82 36 59.61

			″
Jan.	17	E.	+ 1.8
	28	W.	− 1.2

α ORIONIS—Continued.

			″
Feb.	17	W.	+ 2.2
March	10	E.	+ 1.5
May	25	E.	+ 2.3
	27	R.	+ 2.1
	28	W.	+ 2.5
	31	R.	− 1.5
June	16	R.	− 2.3
July	5	R.	+ 1.9
	6	W.	+ 1.8
	10	W.	− 2.5
	13	R.	+ 2.2
	17	R.	+ 1.1
	22	W.	+ 1.7
	25	R.	− 2.2
	27	E.	+ 2.2
Aug.	2	R.	− 1.5
	19	R.	− 1.3
Oct.	27	W.	+ 2.6
Dec.	5	R.	+ 2.2
	23	E.	+ 0.3
Mean			+ 1.54
Div., Flex., etc.			− 0.84

α ORIONIS (Ref.).

			″
Jan.	28	W.	− 0.4
July	17	R.	0.0
Oct.	27	W.	+ 2.3
Dec.	5	R.	+ 0.5
Mean			+ 0.60
Div., Flex., etc.			+ 0.66

ν ORIONIS . . . . . h. m. s. 6 0 0.47; ° ′ ″ 75 13 7.77

			″
Feb.	5	W.	+ 2.4
	16	R.	+ 3.4
March	1	W.	+ 1.2
	7	S.	+ 0.5
Dec.	5	R.	+ 0.4
	17	R.	+ 0.9
	23	E.	+ 0.9
Mean			+ 1.39
Div., Flex., etc.			− 0.80

22 CAMELOPARDALIS . h. m. s. 6 5 44; ° ′ ″ 20 38 28.46

			″
Dec.	5	R.	+ 1.1
	17	R.	+ 0.1
Mean			+ 0.60
Div., Flex., etc.			− 1.61

22 CAMELOPARDALIS (Ref.).

			″
Dec.	5	R.	− 0.9
Div., Flex., etc.			+ 1.49

22 CAMELOP., S. P. . 339° 21′ 31″.54

			″
June	26	E.	+ 2.0
July	2	R.	+ 2.6
Aug.	3	R.	− 1.4
	15	R.	− 0.1
	20	W.	+ 2.7
	23	R.	− 0.1
Mean			+ 1.42
Div., Flex., etc.			− 1.35

μ GEMINORUM . . . h. m. s. 6 15 46 / ° ′ ″ 67 25 36.98

			″
March	2	E.	+ 2.8
	11	S.	+ 0.9
April	5	R.	+ 1.2
May	1	E.	— 0.6
	25	E.	+ 1.6
July	22	W.	+ 0.8
Aug.	19	R.	+ 0.8
Dec.	23	E.	+ 0.3
Mean			+ 0.98
Div., Flex., etc. . . .			— 0.58

γ GEMINORUM . . . h. m. s. 6 30 50 / ° ′ ″ 73 30 2.25

			″
Jan.	22	S.	+ 1.1
	24	W.	+ 1.4
	27	R.	+ 0.7
Feb.	5	W.	+ 1.2
	16	R.	+ 2.2
	17	W.	+ 0.9
	19	S.	+ 1.1
	21	W.	+ 2.8
March	1	W.	+ 0.2
	2	E.	+ 2.0
	5	W.	+ 0.1
	7	S.	+ 1.2
	10	E.	+ 1.7
	11	S.	+ 1.3
	14	R.	— 0.2
	15	E.	+ 1.6
	24	R.	+ 1.2
	28	R.	+ 3.4
April	5	R.	+ 1.3
May	1	E.	+ 0.6
	25	E.	+ 0.7
	28	W.	+ 2.4
July	13	R.	+ 1.4
	25	R.	+ 2.0
Aug.	2	R.	+ 1.2
	10	R.	+ 1.2
	19	R.	+ 2.2
Mean			+ 1.37
Div., Flex., etc. . . .			— 0.78

α CANIS MAJORIS . h. m. s. 6 39 54 / ° ′ ″ 106 33 14.44

			″
Jan.	24	W.	+ 0.9
	27	R.	— 0.8
Feb.	5	W.	— 0.1
	21	W.	+ 0.9
March	1	W.	— 0.1
	14	R.	+ 0.5
	24	R.	+ 2.5
	28	R.	+ 3.0
May	27	R.	+ 1.1
	28	W.	+ 1.5
June	11	S.	+ 3.5
July	6	W.	— 2.2
	10	W.	+ 3.8
	18	W.	+ 1.9
	22	W.	+ 2.0
	25	R.	+ 3.1
Aug.	2	R.	+ 1.5
	7	W.	+ 0.2
	10	R.	+ 0.5
	19	R.	+ 0.7
Mean			+ 1.22
Div., Flex., etc. . . .			— 0.44

51 CEPHEI . . . . h. m. s. 6 44 15 / ° ′ ″ 2 46 18.52

			″
Jan.	17	E.	+ 1.9
	27	R.	+ 0.4
	28	W.	+ 1.4
Feb.	5	W.	+ 1.2
	16	R.	+ 2.3
	17	W.	+ 1.8
	21	W.	0.0
March	1	W.	+ 2.3
	2	E.	+ 2.2
	5	W.	+ 1.1
	7	S.	+ 1.0
	10	E.	+ 1.4
	14	R.	+ 0.7
	15	E.	+ 1.0
	24	R.	+ 1.6
	28	R.	+ 1.3
April	5	R.	+ 0.6
Dec.	5	R.	+ 1.2
Mean			+ 1.30
Div., Flex., etc. . . .			— 1.42

51 CEPHEI, S. P. . . 357 13 41.48 ° ′ ″

			″
June	11	W.	+ 2.8
	12	R.	+ 1.8
	18	E.	+ 3.8
	22	E.	+ 3.9
	26	E.	+ 3.8
	28	R.	+ 0.4
	29	W.	+ 2.9
July	1	S.	+ 3.0
	5	S.	+ 2.1
	6	R.	+ 1.8
	8	E.	+ 2.6
	9	S.	+ 2.9
	10	R.	+ 2.4
	18	R.	+ 1.9
Aug.	3	R.	+ 2.1
	5	E.	+ 2.2
	8	W.	+ 2.8
	12	W.	+ 1.6
	15	R.	+ 1.9
	16	W.	+ 2.5
	23	R.	+ 3.3
	24	W.	+ 2.6
	25	E.	+ 2.7
	27	R.	+ 2.8
	29	E.	+ 3.0
	30	S.	+ 2.9
Sept.	19	S.	+ 2.3
Mean			+ 2.55
Div., Flex., etc. . . .			— 1.52

ε CANIS MAJORIS . h. m. s. 6 53 57 / ° ′ ″ 118 48 40.21

			″
Jan.	22	S.	— 1.2
	24	W.	— 1.4
Feb.	16	R.	+ 0.3
March	7	S.	— 2.9
	15	E.	+ 0.8
	24	R.	+ 0.6
	28	R.	+ 0.5
April	5	R.	+ 1.1
May	27	R.	+ 0.5
	28	W.	+ 1.2
June	21	W.	— 0.3
Aug.	2	R.	— 0.2
	7	W.	+ 1.0

ε CANIS MAJORIS—Continued.

			″
Aug.	14	R.	— 0.1
	19	R.	— 0.1
Mean			— 0.01
Div., Flex., etc. . . .			— 0.24

δ CANIS MAJORIS . h. m. s. 7 3 33 / ° ′ ″ 116 12 18.63

			″
Feb.	5	W.	+ 0.5
March	5	W.	— 2.5
	10	E.	+ 1.1
	14	R.	+ 1.1
	28	R.	+ 1.4
April	5	R.	+ 1.0
May	28	W.	+ 1.8
	31	R.	+ 2.5
June	20	R.	+ 0.2
July	22	W.	+ 2.4
Aug.	2	R.	+ 0.9
	14	R.	+ 2.2
Mean			+ 1.05
Div., Flex., etc. . . .			— 0.32

δ GEMINORUM . . . h. m. s. 7 13 1 / ° ′ ″ 67 48 0.10

			″
Jan.	27	R.	— 0.4
March	15	E.	+ 0.4
April	5	R.	+ 0.2
June	20	W.	+ 1.0
Dec.	17	R.	+ 1.0
Mean			+ 0.44
Div., Flex., etc. . . .			— 0.59

δ GEMINORUM (Ref.).

			″
Dec.	17	R.	+ 0.6
Div., Flex., etc. . . .			+ 0.45

PIAZZI VII, 67 . . . h. m. s. 7 18 29 / ° ′ ″ 21 17 37.37

			″
Feb.	19	S.	+ 1.9
Div., Flex., etc. . . .			— 1.61

PIAZZI VII, 67, S. P. 338 42 22.63 ° ′ ″

			″
June	29	W.	+ 0.2
July	2	R.	+ 2.2
Mean			+ 1.20
Div., Flex., etc. . . .			— 1.33

a^2 GEMINORUM . . h. m. s. 7 27 0 / ° ′ ″ 57 51 7.06

			″
Jan.	27	R.	+ 1.1
Feb.	21	W.	+ 0.5
March	14	R.	+ 0.5
April	5	R.	+ 1.3
May	27	R.	+ 2.7
	31	R.	+ 1.6

a^2 GEMINORUM—Continued.

			″
June	18	E.	+ 2.1
	21	W.	+ 0.3
Aug.	2	R.	+ 2.0
	7	W.	+ 1.6
	10	R.	+ 1.0
	14	R.	+ 0.6
	19	W.	+ 1.4
	22	R.	+ 1.1
Mean			+ 1.27
Div., Flex., etc. . . .			— 0.33

α CANIS MINORIS . h. m. s. 7 33 4 / ° ′ ″ 84 28 16.44

			″
Jan.	22	S.	+ 3.2
April	5	R.	+ 0.9
May	27	R.	+ 1.2
	28	W.	+ 1.3
	31	R.	+ 1.6
June	11	S.	+ 3.8
	18	E.	+ 1.2
	20	R.	+ 0.1
	21	W.	+ 1.9
July	6	W.	+ 2.0
	18	W.	— 0.6
	22	W.	+ 3.8
Aug.	7	W.	+ 1.5
	10	R.	+ 2.5
	19	W.	+ 1.2
	22	R.	+ 0.1
	30	R.	+ 1.2
Mean			+ 1.58
Div., Flex., etc. . . .			— 0.81

α CANIS MINORIS (Ref.).

			″
April	5	R.	+ 1.3
Div., Flex., etc. . . .			+ 0.61

β GEMINORUM . . . h. m. s. 7 38 2 / ° ′ ″ 61 41 15.97

			″
Feb	21	W.	+ 0.4
May	27	R.	+ 2.4
June	11	S.	+ 2.8
	21	W.	+ 1.1
	30	E.	+ 2.3
July	6	W.	+ 2.4
	22	W.	+ 3.9
Aug.	2	R.	+ 2.8
	7	W.	+ 1.7
	10	R.	+ 1.8
	14	R.	+ 0.4
	19	W.	+ 2.0
	22	R.	+ 0.4
	26	R.	— 0.1
	30	R.	+ 0.3
Oct.	15	W.	+ 1.8
Mean			+ 1.65
Div., Flex., etc. . . .			— 0.53

φ GEMINORUM . . . h. m. s. 7 46 13 / ° ′ ″ 62 55 39.11

			″
Feb.	21	W.	0.0

φ Geminorum—Continued.

			″
March	1	W.	— 0.7
Mean			— 0.35
Div., Flex., etc.			— 0.57

3 Ursæ Majoris . h. m. s. 8 0 57; ° ′ ″ 21 10 40.25

			″
March	2	E.	+ 3.4
Div., Flex., etc.			— 1.61

3 Ursæ Majoris (Ref.).

			″
March	2	E.	— 0.9
Div., Flex., etc.			+ 1.47

3 Ursæ Maj., S. P., 338° 49′ 19″.75.

			″
July	2	R.	+ 3.4
	6	R.	+ 2.1
Oct.	5	S.	0.0
Mean			+ 1.83
Div., Flex., etc.			— 1.33

15 Argus . h. m. s. 8 2 29; ° ′ ″ 113 57 43.67

			″
Oct.	15	W.	+ 1.0
Div., Flex., etc.			— 0.43

η Cancri . h. m. s. 8 25 50; ° ′ ″ 69 9 20.64

			″
Jan.	28	W.	+ 2.8
Feb.	16	R.	+ 1.4
March	2	E.	— 0.9
	29	W.	+ 0.2
April	2	W.	+ 1.0
Oct.	15	W.	+ 0.9
Mean			+ 0.90
Div., Flex., etc.			— 0.62

η Cancri (Ref.).

			″
March	2	E.	+ 0.2
Div., Flex., etc.			+ 0.45

ε Hydræ . h. m. s. 8 40 28; ° ′ ″ 83 8 44.20

			″
Jan.	28	W.	+ 0.5
Feb.	5	W.	+ 0.7
	16	R.	+ 2.0
	19	S.	+ 1.9
	25	W.	— 1.0
	29	W.	+ 1.7
April	2	W.	+ 1.3
	11	E.	+ 0.5
Mean			+ 0.95
Div., Flex., etc.			— 0.84

ε Hydræ (Ref.).

			″
Jan.	28	W.	— 0.4
Feb.	5	W.	+ 0.3
Mean			— 0.05
Div., Flex., etc.			+ 0.65

ι Ursæ Majoris . h. m. s. 8 51 3; ° ′ ″ 41 29 32.26

			″
Jan.	28	W.	+ 1.0
Feb.	17	W.	+ 1.8
	21	W.	+ 1.7
March	25	W.	+ 2.0
April	11	E.	+ 1.0
	15	E.	+ 1.8
July	2	R.	— 0.8
	14	R.	— 0.9
Oct.	15	W.	+ 2.3
Mean			+ 1.10
Div., Flex., etc.			— 1.31

ι Ursæ Majoris (Ref.).

			″
Jan.	28	W.	— 0.4
March	25	W.	— 1.3
Mean			— 0.85
Div., Flex., etc.			+ 0.91

σ² Ursæ Majoris . h. m. s. 8 59 54; ° ′ ″ 22 23 1.95

			″
Jan.	27	R.	+ 1.0
March	7	S.	+ 3.7
	24	R.	+ 2.6
April	5	R.	+ 1.8
Mean			+ 2.28
Div., Flex., etc.			— 1.62

σ² Ursæ Majoris (Ref.).

			″
March	24	R.	— 1.4
April	5	R.	— 3.5
Mean			— 2.45
Div., Flex., etc.			+ 1.43

σ² Ursæ Maj., S. P., 337° 36′ 58″.05.

			″
Aug.	23	R.	— 2.2
Sept.	20	R.	+ 0.2
	24	R.	+ 0.3
	30	R.	+ 2.6
Oct.	11	W.	— 1.2
	17	S.	— 0.1
	22	R.	+ 2.9
	26	R.	+ 2.5
Mean			+ 0.62
Div., Flex., etc.			— 1.29

κ Cancri . h. m. s. 9 1 18; ° ′ ″ 78 51 13.61

			″
Jan.	28	W.	+ 2.4
Feb.	19	S.	+ 0.6
March	2	E.	+ 1.3
	11	S.	+ 0.9
	25	W.	+ 1.3
	28	R.	+ 3.1
	29	W.	+ 1.3
April	2	W.	+ 2.5
	4	S.	+ 1.2
	11	E.	+ 0.6
	15	E.	+ 1.2
	16	S.	+ 1.8
Oct.	15	W.	+ 2.6
Nov.	13	E.	+ 2.4
Mean			+ 1.66
Div., Flex., etc.			— 0.81

1 Draconis . h. m. s. 9 20 0; ° ′ ″ 8 8 59.30

			″
Jan.	27	R.	+ 1.1
March	29	W.	+ 1.5
April	4	S.	+ 2.6
Mean			+ 1.73
Div., Flex., etc.			— 1.35

1 Draconis (Ref.).

			″
March	29	W.	— 2.0
Div., Flex., etc.			+ 1.30

1 Draconis, S. P., 351° 51′ 0″.70.

			″
July	18	R.	+ 1.2
Sept.	5	R.	+ 3.1
Oct.	6	R.	+ 2.9
Mean			+ 2.40
Div., Flex., etc.			— 1.69

α Hydræ . h. m. s. 9 21 44; ° ′ ″ 98 8 36.83

			″
Jan.	28	W.	+ 1.8
March	2	E.	— 0.1
	7	S.	— 0.1
	10	E.	+ 1.8
	11	S.	+ 2.1
April	2	W.	+ 1.2
	11	E.	+ 1.5
	15	E.	+ 0.4
	22	W.	+ 0.7
	28	S.	+ 1.4
July	2	R.	+ 1.0
	8	E.	+ 0.4
	14	R.	+ 0.6
Aug.	19	W.	— 0.5
Sept.	23	R.	— 0.8
Nov.	13	E.	+ 2.7
	14	S.	+ 0.5
Mean			+ 0.86
Div., Flex., etc.			— 0.33

θ Ursæ Majoris . h. m. s. 9 24 53; ° ′ ″ 37 46 52.82

			″
Nov.	13	E.	+ 2.8
Div., Flex., etc.			— 1.40

ε Leonis . h. m. s. 9 39 6; ° ′ ″ 65 40 42.96

			″
Jan.	27	R.	— 0.2
March	2	E.	+ 0.2
	7	S.	+ 0.3
	13	W.	— 0.4
	29	W.	+ 1.5
April	22	W.	+ 0.1
	23	E.	+ 2.3
	28	S.	+ 0.6
July	2	R.	+ 2.6
	8	E.	+ 2.4
	14	R.	+ 1.2
	19	W.	+ 1.3
Sept.	23	R.	— 0.9
Nov.	13	E.	+ 1.6
Mean			— 0.90
Div., Flex., etc.			+ 0.53

μ Leonis . h. m. s. 9 46 0; ° ′ ″ 63 25 59.99

			″
Jan.	27	R.	— 0.1
March	2	E.	— 0.5
	7	S.	— 1.5
	10	E.	+ 0.8
	13	W.	— 0.7
April	4	S.	+ 0.3
	23	E.	+ 1.4
Nov.	14	S.	+ 0.1
Mean			— 0.02
Div., Flex., etc.			— 0.55

α Leonis . h. m. s. 10 2 2; ° ′ ″ 77 27 6.44

			″
Jan.	27	R.	— 0.2
Feb.	21	W.	+ 0.2
March	13	W.	+ 0.4
April	22	W.	+ 0.3
May	10	S.	+ 0.7
July	2	R.	+ 2.1
	14	R.	+ 1.7
	18	R.	+ 2.6
	26	R.	+ 3.0
	28	E.	+ 2.5
Aug.	3	R.	+ 2.2
	8	W.	+ 1.5
Sept.	23	R.	+ 0.4
Nov.	13	E.	+ 1.3
	14	S.	+ 0.2
Mean			+ 1.26
Div., Flex., etc.			— 0.84

α Leonis (Ref.).

			″
Feb.	21	W.	+ 0.9
Div., Flex., etc.			+ 0.60

32 URSÆ MAJORIS . h. m. s. 10 9 23; ° ′ ″ 24 17 56.08

				″
Jan.	27	R.	—	0.3
April	11	E.	+	1.7
Nov.	14	S.	+	0.8
Mean			+	0.73
Div., Flex., etc. . . .			—	1.55

32 URSÆ MAJORIS (Ref.).

				″
Jan.	27	R.	—	5.1
April	11	E.	—	2.9
Mean			—	4.00
Div., Flex., etc. . . .			+	1.46

	°	′	″
32 URSÆ MAJ., S. P. .	335	42	3.92

				″
Aug.	15	R.	+	0.2
Sept.	19	S.	+	0.2
Oct.	10	R.	—	1.1
Mean			+	0.50
Div., Flex., etc. . . .			—	1.21

γ¹ LEONIS . . . . . h. m. s. 10 13 25; ° ′ ″ 69 33 25.53

				″
March	1	W.	+	1.2
	10	E.	+	0.7
	11	S.	+	1.1
	24	R.	+	1.3
	29	W.	—	0.7
April	10	W.	—	1.9
	22	W.	+	1.4
July	2	R.	+	2.4
	14	R.	+	2.2
Sept.	23	R.	—	0.6
Nov.	13	E.	+	2.1
Mean			+	1.42
Div., Flex., etc. . . .			—	0.63

9 DRACONIS . . . . h. m. s. 10 24 57; ° ′ ″ 13 40 29.44

				″
Jan.	27	R.	+	0.7
March	10	E.	+	1.6
	13	W.	+	0.1
	24	R.	+	1.6
Mean			+	1.00
Div., Flex., etc. . . .			—	1.59

9 DRACONIS (Ref.).

				″
Jan.	27	R.	—	0.4
March	10	E.	+	0.2
	13	W.	—	2.7
Mean			—	0.97
Div., Flex., etc. . . .			+	1.28

	°	′	″
9 DRACONIS, S. P. . .	346	19	30.56

				″
Oct.	8	R.	—	1.2
Nov.	15	R.	+	1.1
	27	R.	+	2.7
Mean			+	0.87
Div., Flex., etc. . . .			—	1.63

ρ LEONIS . . . . . h. m. s. 10 26 33; ° ′ ″ 80 4 53.61

				″
March	1	W.	+	1.9
April	4	S.	+	0.9
	10	W.	+	2.2
	16	S.	+	1.5
	23	E.	+	2.3
Oct.	9	R.	+	2.0
Nov.	13	E.	+	2.3
	14	S.	+	1.3
	15	R.	+	2.7
Mean			+	1.90
Div., Flex., etc. . . .			—	0.78

ι LEONIS . . . . . h. m. s. 10 43 0; ° ′ ″ 78 49 31.87

				″
Feb.	21	W.	—	0.4
March	1	W.	+	0.9
	13	W.	+	0.1
May	7	R.	—	1.3
	8	W.	—	1.4
	10	S.	+	0.5
	16	W.	+	1.2
Nov.	15	R.	+	0.5
Mean			+	0.01
Div., Flex., etc. . . .			—	0.81

α URSÆ MAJORIS . h. m. s. 10 56 22; ° ′ ″ 27 36 24.78

				″
April	5	R.	+	1.0
	10	W.	+	2.5
	11	E.	+	1.3
	16	S.	+	0.9
	23	E.	+	1.9
May	7	R.	+	1.7
	8	W.	+	0.8
	10	S.	+	2.6
	16	W.	+	0.6
July	2	R.	+	2.1
	19	W.	+	0.4
Aug.	3	R.	+	1.3
	8	W.	+	2.1
	15	R.	+	0.6
	23	R.	+	2.3
Sept.	23	R.	+	2.3
Oct.	9	R.	+	2.5
	10	W.	+	1.4
	13	R.	+	3.4
	19	E.	+	3.0
Nov.	15	R.	+	2.7
Mean			+	1.78
Div., Flex., etc. . . .			—	1.43

α URSÆ MAJORIS (Ref.).

				″
April	5	R.	—	1.9
	23	E.	—	0.9

α URSÆ MAJORIS (Ref.)—Continued.

				″
May	7	R.	—	1.0
	16	W.	—	3.4
Sept.	23	R.	—	0.4
Oct.	9	R.	+	0.3
	19	E.	+	0.5
Nov.	15	R.	+	2.2
Mean			—	0.58
Div., Flex., etc. . . .			+	1.37

	°	′	″
α URSÆ MAJ., S. P. .	332	23	35.22

				″
July	28	E.	+	2.5
Div., Flex., etc. . . .			—	1.20

δ LEONIS . . . . . h. m. s. 11 7 47; ° ′ ″ 68 49 28.45

				″
Feb.	16	R.	+	1.0
	21	W.	—	0.5
April	5	R.	—	0.4
	10	W.	+	1.4
	11	E.	—	0.3
	16	S.	—	0.2
	23	E.	+	0.1
	29	R.	—	1.8
May	7	R.		0.0
	9	E.	+	0.9
	10	S.	+	0.7
	16	W.	+	0.8
July	2	R.	+	1.2
	19	W.	+	0.2
Aug.	8	W.	—	0.1
Sept.	23	R.		0.0
Oct.	10	W.	+	0.2
	13	R.	+	1.6
	16	S.	+	0.5
	17	R.	—	0.3
	19	E.	—	0.6
Nov.	14	S.	—	0.2
	15	R.	+	0.2
Dec.	16	S.	—	1.2
Mean			+	0.13
Div., Flex., etc. . . .			—	0.61

δ LEONIS (Ref.).

				″
April	23	E.	—	0.2
May	10	S.	—	0.8
Mean			—	0.50
Div., Flex., etc. . . .			+	0.45

δ CRATERIS . . . h. m. s. 11 13 24; ° ′ ″ 104 8 5.46

				″
Feb.	21	W.		0.0
March	24	R.	+	1.0
April	5	R.	—	0.2
	10	W.	+	1.5
	11	E.	—	0.6
	16	S.	—	0.4
	29	R.	—	1.3
May	7	R.		0.0
	8	W.	—	0.7
	9	E.	—	0.1
	16	W.	+	1.1
Oct.	9	R.	—	1.2
Nov.	15	R.	—	0.2
Dec.	16	S.	—	1.1
Mean			—	0.16
Div., Flex., etc. . . .			—	0.51

τ LEONIS . . . . . h. m. s. 11 21 49; ° ′ ″ 86 29 18.83

				″
Feb.	16	R.	+	0.2
March	24	R.	—	0.1
April	5	R.	+	0.6
	29	R.	—	0.4
May	8	W.	—	0.2
	9	E.	+	0.2
	16	W.	—	0.5
Mean			—	0.03
Div., Flex., etc. . . .			—	0.67

λ DRACONIS . . . . h. m. s. 11 24 19; ° ′ ″ 20 0 44.34

				″
April	5	R.	+	0.6
Oct.	9	R.	+	1.7
	13	R.	+	1.8
	17	R.	+	0.4
	18	W.	+	1.5
Mean			+	1.20
Div., Flex., etc. . . .			—	1.60

	°	′	″
λ DRACONIS, S. P., . .	339	59	15.66

				″
Aug.	23	R.	+	1.1
	27	R.	+	1.0
Sept.	20	R.	+	0.9
	24	R.	—	0.5
Nov.	8	W.	+	1.2
	28	W.	+	0.6
Mean			+	0.72
Div., Flex., etc. . . .			—	1.36

υ LEONIS . . . . . h. m. s. 11 30 51; ° ′ ″ 90 10 0.87

				″
Feb.	16	R.	+	1.0
March	24	R.	+	0.7
April	29	R.	—	0.4
	30	W.	+	0.6
May	8	W.	+	0.5
	12	W.	—	0.1
	16	W.	+	0.9
Mean			+	0.46
Div., Flex., etc. . . .			—	0.51

υ LEONIS (Ref.).

				″
May	8	W.	+	0.5
Div., Flex., etc. . . .			+	0.68

β LEONIS . . . . . h. m. s. 11 42 59; ° ′ ″ 74 45 46.08

				″
April	22	W.	+	1.4
	29	R.	—	0.3
	30	W.	+	2.4
May	9	E.	+	1.3
	12	W.	—	0.2
	20	W.	+	2.0
July	3	W.	+	2.0

β Leonis—Continued.

				″
Aug.	3	R.	+	3.2
	8	W.	+	2.5
Oct.	9	R.	+	1.5
	10	W.	+	2.8
	16	S.	+	1.6
	17	R.		0.0
	18	W.	+	0.5
	19	E.	+	0.7
	20	S.	—	2.0
	21	R.	—	1.8
Nov.	15	R.	+	1.9
Dec.	16	S.	—	1.0
Mean			+	0.97
Div., Flex., etc.			—	0.79

β Leonis (Ref.).

				″
April	22	W.	+	1.5
	29	R.	—	0.9
Nov.	15	R.	+	0.5
Mean			+	0.37
Div., Flex., etc.			+	0.51

γ Ursæ Majoris . { h. m. s. 11 47 34 / ° ′ ″ 35 38 37.30

				″
April	10	W.	+	1.8
May	8	W.	+	1.3
	12	W.	—	1.6
Aug.	8	W.	+	1.8
	27	R.	+	0.8
Sept.	23	R.	—	0.1
Oct.	9	R.	+	1.7
	10	W.	+	1.3
	13	R.	+	2.0
	16	S.	—	1.9
	20	S.	—	0.3
	21	R.	—	0.2
Nov.	15	R.	+	1.2
Mean			+	0.89
Div., Flex., etc.			—	1.36

γ Ursæ Majoris (Ref.).

				″
May	8	W.	+	0.6
Oct.	13	R.	+	1.3
Mean			+	0.95
Div., Flex., etc.			+	1.05

o Virginis . . . . { h. m. s. 11 59 9 / ° ′ ″ 80 36 21.73

				″
March	24	R.	+	0.1
	29	W.	+	0.9
April	5	R.	+	0.2
	30	W.	+	1.8
May	7	R.		0.0
	10	S.	+	0.4
	12	W.	—	1.5
	20	W.	+	0.8
	21	E.	+	1.5
	28	W.	+	1.1
Nov.	15	R.	+	0.8
Mean			+	0.55
Div., Flex., etc.			—	0.79

o Virginis (Ref.).

				″
March	29	W.	+	0.9
April	5	R.	+	1.0
Mean			+	0.95
Div., Flex., etc.			+	0.69

4 Draconis . . . . { h. m. s. 12 6 37 / ° ′ ″ 11 43 20.81

				″
April	5	R.	+	0.5
	10	W.	+	2.6
	29	R.	+	1.4
May	7	R.	+	0.9
	12	W.	+	1.2
	20	W.	+	3.1
	28	W.	+	2.6
Mean			+	1.70
Div., Flex., etc.			—	1.58

4 Draconis (Ref.).

				″
April	10	W.	+	3.3
May	20	W.	—	0.6
Mean			+	1.35
Div., Flex., etc.			+	1.29

	°	′	″
4 Draconis, S. P. . .	348	16	39.19

				″
Sept.	30	R.	+	3.9
Oct.	10	R.	+	2.2
Dec.	5	R.	+	2.9
Mean			+	3.00
Div., Flex., etc.			—	1.64

γ Corvi . . . . . { h. m. s. 12 9 41 / ° ′ ″ 106 52 52.03

				″
May	28	W.	+	1.0
July	3	W.	+	1.7
Nov.	15	R.	+	2.6
Mean			+	1.77
Div., Flex., etc.			—	0.44

η Virginis . . . . { h. m. s. 12 13 49 / ° ′ ″ 90 0 19.52

				″
March	29	W.	+	1.4
May	12	W.	+	0.2
	20	W.	+	1.2
	21	E.	+	1.4
	28	W.	+	0.5
July	3	W.	+	3.1
Mean			+	1.30
Div., Flex., etc.			—	0.51

β Corvi . . . . . { h. m. s. 12 28 8 / ° ′ ″ 112 44 18.57

				″
April	4	S.	—	1.1

β Corvi—Continued.

				″
May	8	W.	—	0.7
	10	S.	—	0.6
	21	E.	+	1.7
Mean			—	0.18
Div., Flex., etc.			—	0.49

κ Draconis . . . . { h. m. s. 12 28 24 / ° ′ ″ 19 33 20.53

				″
May	9	E.	+	0.1
	12	W.	+	0.8
	20	W.	+	1.2
	28	W.	+	1.7
Oct.	9	R.	+	1.0
	17	R.	+	0.8
	21	R.	—	1.0
Mean			+	0.66
Div., Flex., etc.			—	1.59

κ Draconis (Ref.).

				″
May	12	W.	—	2.0
	20	W.	—	0.3
	28	W.	—	1.0
Mean			—	1.10
Div., Flex., etc.			+	1.53

	°	′	″
κ Draconis, S. P. . .	340	26	39.47

				″
Dec.	17	R.	+	2.1
	27	E.	+	1.9
Mean			+	2.00
Div., Flex., etc.			—	1.39

32² Camelopardalis. { h. m. s. 12 48 16 / ° ′ ″ 5 56 24.86

				″
Feb.	16	R.	—	0.5
Div., Flex., etc.			—	1.40

32² Camelopardalis (Ref.).

				″
Feb.	16	R	—	1.6
Div., Flex., etc.			+	1.26

	°	′	″
32² Camelop., S. P. .	354	3	35.14

				″
July	18	R.	+	1.7
	22	R.	+	2.4
Nov.	25	E.	+	1.8
Dec.	1	R.	+	1.8
	5	R.	+	2.5
Mean			+	2.04
Div., Flex., etc.			—	1.71

α² Canum Venat . { h. m. s. 12 50 28 / ° ′ ″ 51 2 19.42

				″
March	29	W.	+	1.7
April	4	S.	+	1.4

α² Canum Venat.—Continued.

				″
April	10	W.	—	2.4
	23	E.	+	2.0
May	8	W.	+	1.3
	9	E.	+	0.7
	10	S.	+	0.5
	21	E.	+	1.6
	25	E.	+	1.0
July	31	W.	+	1.0
Aug.	23	R.	+	1.3
	27	R.	+	1.7
Oct.	13	R.	+	1.0
	18	W.	+	2.9
	20	S.	—	0.4
	21	R.	+	0.7
Nov.	3	W.	+	1.9
	15	W.	+	0.8
Dec.	16	S.		0.0
Mean			+	1.24
Div., Flex., etc.			—	0.85

θ Virginis . . . . { h. m. s. 13 3 47 / ° ′ ″ 94 54 12.06

				″
Feb.	16	R.	+	0.3
April	4	S.	+	1.0
	10	W.	+	1.5
	16	S.	+	0.6
	23	E.	+	1.5
May	8	W.	+	1.5
	9	E.	+	1.6
	21	E.	+	1.7
	25	E.	+	1.2
	28	W.	+	1.4
July	3	W.	+	2.3
Dec.	15	E.	+	2.0
Mean				1.38
Div., Flex., etc.			—	0.45

α Virginis . . . . { h. m. s. 13 18 55 / ° ′ ″ 100 32 23.20

				″
Feb.	16	R.	+	1.4
March	29	W.	+	1.1
April	10	W.	+	1.9
	16	S.	+	1.6
	22	W.	+	0.5
July	31	W.	+	1.6
Aug.	27	R.		0.0
Nov.	13	S.	+	0.2
Dec.	15	E.	+	1.5
Mean			+	1.09
Div., Flex., etc.			—	0.46

ζ Virginis . . . . { h. m. s. 13 28 38 / ° ′ ″ 89 59 13.19

				″
April	10	W.	+	2.3
	22	W.	+	0.2
	23	E.	+	1.6
	28	S.	—	0.4
May	8	W.	—	0.3
	9	E.	+	0.2
	20	W.	+	0.2
	21	E.	+	0.2
	25	E.	+	0.5
	27	R.	+	1.9

ζ VIRGINIS—Continued.

				″
May	28	W.	+	0.4
June	21	W.	+	1.0
July	5	S.	+	1.9
	31	W.	+	2.0
Nov.	14	R.	+	0.6
	16	E.	—	0.5
Dec.	16	S.	—	0.6
	17	W.	+	0.8
Mean			+	0.67
Div., Flex., etc.			—	0.51

η URSÆ MAJORIS . h. m. s. 13 42 51; ° ′ ″ 40 5 32.78

				″
May	24	W.	+	1.9
	25	E.	+	2.2
	27	R.	+	0.6
Sept.	24	R.	+	0.4
Oct.	11	W.	+	2.9
	14	R.	+	2.9
	18	R.	+	1.2
Nov.	15	W.	+	0.9
	27	W.	—	1.2
Dec.	17	W.	+	1.1
Mean			+	1.29
Div., Flex., etc.			—	1.35

η URSÆ MAJORIS (Ref.).

				″
May	25	E.	—	1.6
	27	R.	—	1.3
Oct.	14	R.	+	0.6
Dec.	17	W.	—	0.8
Mean			—	0.78
Div., Flex., etc.			+	1.00

η BOOTIS . . . . . h. m. s. 13 49 1; ° ′ ″ 71 0 18.75

				″
April	28	S.	+	0.7
May	8	W.	+	0.5
	20	W.	+	2.3
	21	E.	+	2.3
	24	W.	+	2.6
June	8	R.	+	1.6
	13	W.	+	0.8
July	31	W.	+	1.3
Oct.	10	R.	+	3.3
	11	W.	+	2.6
Nov.	14	R.	+	1.0
	15	W.	+	0.5
	24	E.	+	1.0
	27	W.	—	0.3
Dec.	15	E.	+	2.7
	16	S.	—	0.1
	17	W.	+	2.3
Mean			+	1.48
Div., Flex., etc.			—	0.69

η BOOTIS (Ref.).

				″
May	8	W.	—	0.9
	20	W.	—	0.2
Mean			—	0.55
Div., Flex., etc.			+	0.46

α DRACONIS . . . . h. m. s. 14 1 10; ° ′ ″ 25 3 18.55

				″
June	13	W.	+	2.1
Sept.	24	R.	+	0.6
Oct.	10	R.	+	1.7
	14	R.	+	1.5
	22	R.	+	0.2
Nov.	27	W.	—	0.3
Dec.	1	W.	+	0.6
Mean			+	0.91
Div., Flex., etc.			—	1.52

α DRACONIS (Ref.).

				″
June	13	W.	—	1.3
Div., Flex., etc.			+	1.46

α DRACONIS, S. P. . . ° ′ ″ 334 56 41.45

				″
Oct.	10	R.	+	0.4
Dec.	9	R.	+	1.7
Mean			+	1.05
Div., Flex., etc.			—	1.19

α BOOTIS . . . . . h. m. s. 14 10 14; ° ′ ″ 70 11 50.87

				″
Jan.	23	R.	+	1.7
April	28	S.	+	1.4
	30	W.	—	0.2
May	7	R.	+	1.1
	10	S.	+	0.4
	12	W.	—	0.6
	24	W.	+	2.5
	27	R.	+	2.3
June	13	W.	+	0.6
	21	W.	+	0.5
	22	E.	+	1.4
July	31	W.	+	1.0
Sept.	24	R.	+	1.3
Oct.	10	R.	+	1.5
	11	W.	+	3.2
	14	R.	+	2.6
	18	R.	+	0.1
	22	R.	—	1.1
Nov.	3	W.	+	3.2
	13	S.	+	1.4
	14	R.	+	0.4
	15	W.	+	0.3
	16	E.	+	1.8
	24	E.	+	0.6
	27	W.	+	0.3
Dec.	16	S.	+	0.3
	17	W.	+	1.0
Mean			+	1.07
Div., Flex., etc.			—	0.64

α BOOTIS (Ref.).

				″
Jan.	23	R.	—	1.7
Sept.	24	R.	+	0.9
Oct.	10	R.	+	1.3
Nov.	14	R.	+	2.5
Mean			+	0.75
Div., Flex., etc.			+	0.45

θ BOOTIS . . . . . h. m. s. 14 21 9; ° ′ ″ 37 35 55.58

				″
Jan.	23	R.	+	0.5
April	22	W.		0.0
	30	W.	+	2.6
May	24	W.	+	2.7
	27	R.	+	2.0
June	8	R.	+	0.8
	21	W.	+	1.7
Nov.	14	R.	+	1.5
Mean			+	1.48
Div., Flex., etc.			—	1.40

θ BOOTIS (Ref.).

				″
Jan.	23	R.	+	0.3
April	30	W.	—	0.3
May	24	W.	—	0.7
June	21	W.	—	0.3
Mean			—	0.25
Div., Flex., etc.			+	1.00

ρ BOOTIS . . . . . h. m. s. 14 26 42; ° ′ ″ 59 6 20.29

				″
Jan.	23	R.	—	1.6
April	22	W.	—	0.5
	29	R.	—	0.6
	30	W.	—	0.2
May	7	R.	—	1.4
	10	S.	—	1.4
	24	W.	+	1.3
	27	R.	+	1.2
	28	W.	+	2.8
June	8	R.	—	0.4
	13	W.	+	0.2
	21	W.	—	0.7
July	5	S.	+	0.7
Oct.	10	R.	+	1.1
Nov.	27	W.	+	0.1
Mean			+	0.04
Div., Flex., etc.			—	0.37

ρ BOOTIS (Ref.).

				″
May	28	W.	+	0.3
Div., Flex., etc.			+	0.41

ε BOOTIS . . . . . h. m. s. 14 39 47; ° ′ ″ 62 25 24.39

				″
Jan.	23	R.		0.0
April	22	W.	+	0.7
	29	R.	—	0.1
	30	W.		0.0
May	7	R.	—	0.8
	24	W.	+	0.9
	28	W.	+	1.8
June	8	R.	+	0.5
	21	W.	+	0.2
Sept.	24	R.	+	0.1
Oct.	10	R.	+	4.0
	11	W.	+	2.0
	14	R.	+	2.7
	25	S.	—	1.0
Nov.	13	S.	+	0.7
	14	R.	+	0.2
	24	E.		0.0

ε BOOTIS—Continued.

				″
Nov.	27	W.	—	1.4
Dec.	1	W.	+	0.4
	8	R.	—	1.6
Mean			+	0.48
Div., Flex., etc.			—	0.56

α² LIBRÆ . . . . h. m. s. 14 44 18; ° ′ ″ 105 32 46.90

				″
Jan.	23	R.	+	3.1
May	12	W.	+	0.4
	24	W.	+	1.9
	28	W.	+	1.6
June	8	R.	+	0.7
July	1	S.	+	0.2
Mean			+	1.32
Div., Flex., etc.			—	0.46

β URSÆ MINORIS . h. m. s. 14 51 4; ° ′ ″ 15 21 29.49

				″
Jan.	23	R.	+	0.4
April	29	R.	+	0.4
May	7	R.	+	1.1
June	8	R.	+	1.4
July	1	S.	+	2.6
Sept.	24	R.	+	0.6
Oct.	10	R.	+	2.1
	22	R.	+	3.1
	27	W.	+	1.7
Nov.	15	W.	+	2.8
	27	W.	—	0.4
Dec.	1	W.	—	0.2
	8	R.	+	2.0
	17	W.	+	1.7
Mean			+	1.38
Div., Flex., etc.			—	1.54

β URSÆ MINORIS (Ref.).

				″
April	29	R.	—	1.3
June	8	R.	—	0.9
Oct.	22	R.	—	2.0
Mean			—	1.40
Div., Flex., etc.			+	1.37

β URSÆ MIN., S. P. . ° ′ ″ 344 38 30.51

				″
May	30	R.	+	0.7
Div., Flex., etc.			—	1.57

β BOOTIS . . . . . h. m. s. 14 57 28; ° ′ ″ 49 8 22.06

				″
May	12	W.	—	1.0
June	8	R.	+	0.9
	18	E.	+	1.3
	22	E.	+	1.1
July	9	S.	+	1.7
Sept.	24	R.	+	1.4
Oct.	10	R.	+	2.4
	11	W.	+	3.9
	17	S.	+	2.9
	20	E.	+	2.8

β Bootis—Continued.

				″
Oct.	27	W.	+	1.6
Nov.	24	E.	+	1.8
Dec.	1	W.	—	0.4
	8	R.	—	0.6
	15	S.	—	0.4
	17	W.	—	1.9
Mean			+	1.09
Div., Flex., etc.			—	1.02

β Libræ . . . . . h. m. s. 15 10 36; ° ′ ″ 98 56 34.30

				″
Jan.	23	R.	—	0.7
April	29	R.	—	1.7
June	18	E.	+	2.4
	22	E.	+	1.2
July	1	S.	+	0.5
	14	R.	—	0.5
Dec.	8	R.	—	0.1
	15	S.	—	0.4
	16	R.	—	2.2
Mean			—	0.17
Div., Flex., etc.			—	0.36

μ¹ Bootis . . . . . h. m. s. 15 20 0; ° ′ ″ 52 12 17.14

				″
Jan.	23	R.	+	0.4
June	22	E.	+	1.7
July	9	S.	+	2.1
	14	R.	+	1.6
Dec.	18	E.	+	0.5
Mean			+	1.26
Div., Flex., etc.			—	0.71

γ² Ursæ Minoris . h. m. s. 15 20 56; ° ′ ″ 17 44 33.24

				″
Oct.	15	W.	+	2.6
	22	R.	+	0.9
Dec.	15	S.	—	0.7
	16	R.	+	0.8
Mean			+	0.90
Div., Flex., etc.			—	1.54

γ² Ursæ Min., S. P. . ° ′ ″ 342 15 26.76

				″
Jan.	22	S.	+	2.2
Oct.	26	R.	+	2.5
Nov.	15	R.	+	1.6
Dec.	2	W.	+	2.1
Mean			+	2.10
Div., Flex., etc.			—	1.51

α Coronæ Borealis h. m. s. 15 29 39; ° ′ ″ 62 53 2.49

				″
Jan.	23	R.	+	1.4
May	25	E.	+	1.5
June	13	W.	+	0.8

α Coronæ Borealis—Continued.

				″
Aug.	3	R.	+	0.3
Oct.	11	W.	+	2.6
	15	W.	+	0.7
	17	S.	+	2.9
	20	E.	+	1.4
	21	S.	+	2.2
	22	R.	+	1.0
	25	S.	+	0.5
	27	W.	+	1.6
Nov.	27	W.	+	1.2
Dec.	1	W.	+	1.6
	15	S.	—	1.4
	16	R.	—	0.9
	18	E.	+	1.3
Mean			+	1.10
Div., Flex., etc.			—	0.57

α Serpentis . . . h. m. s. 15 38 24; ° ′ ″ 83 11 56.68

				″
May	25	E.	+	1.6
Aug.	3	R.	—	0.5
Oct.	11	W.	+	3.5
	15	W.	+	3.0
	17	S.	+	3.1
	21	S.	+	2.0
	25	S.	+	1.6
Dec.	1	W.	+	0.4
	8	R.	+	1.1
	15	S.	—	1.4
	16	R.	—	0.1
	18	E.	+	0.1
Mean			+	1.20
Div., Flex., etc.			—	0.84

ε Serpentis . . . h. m. s. 15 44 53; ° ′ ″ 85 9 46.93

				″
May	25	E.	+	1.1
July	10	R.	+	0.8
	14	R.	+	0.4
Aug.	3	R.	+	0.1
Oct.	25	S.	+	1.8
Dec.	18	E.	+	2.2
Mean			+	1.07
Div., Flex., etc.			—	0.78

ε Coronæ Borealis h. m. s. 15 52 40; ° ′ ″ 62 46 36.14

				″
May	28	W.	+	0.2
July	10	R.	—	0.1
Dec.	18	E.		0.0
	30	E.	—	2.8
Mean			—	0.68
Div., Flex., etc.			—	0.57

δ Scorpii . . . . h. m. s. 15 53 18; ° ′ ″ 112 16 54.12

				″
Aug.	3	R.	—	0.9
Oct.	25	S.	+	1.3
Mean			+	0.20
Div., Flex., etc.			—	0.49

β¹ Scorpii . . . . h. m. s. 15 58 31; ° ′ ″ 109 28 42.50

				″
May	20	W.	+	1.2
	28	W.		0.0
July	1	S.	—	0.3
Oct.	11	W.	+	1.7
	25	S.	+	0.7
Mean			+	0.66
Div., Flex., etc.			—	0.47

Groom. 2320, S. P. h. m. s. 16 6 0; ° ′ ″ 338 7 25.63

				″
Nov.	27	R.	+	1.8
Div., Flex., etc.			—	1.30

δ Ophiuchi . . . . h. m. s. 16 8 7; ° ′ ″ 93 23 12.35

				″
May	20	W.	+	0.7
June	28	R.	+	0.7
Oct.	25	S.	+	1.2
	27	W.	+	1.3
Dec.	23	S.	+	0.3
	30	E.	—	0.1
Mean			+	0.68
Div., Flex., etc.			—	0.45

τ Herculis . . . . h. m. s. 16 16 10; ° ′ ″ 43 24 9.78

				″
June	24	R.	+	0.4
	28	R.	+	0.5
July	5	S.	+	0.7
	10	R.	+	0.1
	14	R.	+	0.8
	22	R.	+	1.3
	27	W.	+	0.7
Nov.	16	W.	+	3.2
Dec.	23	S.	—	1.2
	30	E.	—	1.4
Mean			+	0.51
Div., Flex., etc.			—	1.27

τ Herculis (Ref.).

				″
June	24	R.	—	1.9
Div., Flex., etc.			+	0.77

α Scorpii . . . . h. m. s. 16 22 7; ° ′ ″ 116 9 59.33

				″
July	3	W.	+	1.2
Oct.	15	W.	+	1.8
	22	R.		0.0
	27	W.	+	0.1
Nov.	16	W.	—	0.3
Dec.	23	S.	—	1.0
Mean			+	0.30
Div., Flex., etc.			—	0.32

η Draconis . . . . h. m. s. 16 22 23; ° ′ ″ 28 12 58.29

				″
July	10	R.	+	1.8
Div., Flex., etc.			—	1.42

η Draconis (Ref.).

				″
July	10	R.	—	0.4
Div., Flex., etc.			+	1.35

η Draconis, S. P. . ° ′ ″ 331 47 1.71

				″
Nov.	24	W.	+	0.1
Div., Flex., etc.			—	1.18

β Herculis . . . . h. m. s. 16 25 6; ° ′ ″ 68 15 0.37

				″
May	20	W.	+	1.4
	27	R.	+	1.1
June	24	R.	+	1.4
	28	R.	+	0.4
July	3	W.	+	0.9
	5	S.	—	0.3
	8	E.	+	1.0
Aug.	2	E.	+	1.3
	4	W.	+	2.0
Oct.	27	W.	+	1.2
Nov.	14	S.	+	1.6
Dec.	16	R.	—	0.6
	30	E.	—	0.8
Mean			+	0.82
Div., Flex., etc.			—	0.60

A Draconis . . . . h. m. s. 16 28 13; ° ′ ″ 20 58 28.49

				″
July	10	R.	+	1.2
	14	R.	+	1.5
Mean			+	1.35
Div., Flex., etc.			—	1.61

A Draconis (Ref.).

				″
July	14	R.	—	1.0
Div., Flex., etc.			+	1.47

ζ Ophiuchi . . . h. m. s. 16 30 36; ° ′ ″ 100 19 29.26

				″
May	20	W.	+	0.9
June	12	R.	+	0.3
	24	R.	+	1.2
July	8	E.	+	0.4
Aug.	4	W.	+	1.2
	5	E.	+	1.0
Oct.	15	R.	+	2.6
Nov.	14	S.	+	1.6
Dec.	23	S.	+	0.4
Mean			+	1.07
Div., Flex., etc.			—	0.45

HERCULIS . . . . h. m. s. 16 38 49 / ° ′ ″ 50 51 2.43

				″
ay	27	R.	+	3.5
ne	12	R.	+	1.1
	26	E.	+	1.4
	28	R.	+	2.2
ly	3	W.	+	2.3
	8	E.	+	2.2
ug.	2	E.	+	1.4
	4	W.	+	2.4
	5	E.	+	2.2
ct.	15	W.	+	3.1
	20	E.	+	1.1
ov.	14	S.	+	2.3
	16	W.	+	1.5
ec.	23	S.	+	0.7
ean			+	1.96
iv., Flex., etc. . . .			—	0.86

OPHIUCHI . . . . h. m. s. 16 52 2 / ° ′ ″ 80 26 19.81

				″
ay	27	R.	+	0.8
ne	12	R.	+	0.9
	24	R.	+	2.1
	26	E.	+	0.5
ug.	2	E.	+	0.2
	4	W.	+	2.1
	5	E.	+	1.1
ct.	15	W.	+	1.7
ov.	4	W.	+	2.6
	15	R.	+	2.1
	16	W.	+	1.3
ean			+	1.40
iv., Flex., etc. . . .			—	0.79

κ OPHIUCHI (Ref.).

				″
ne	12	R.	+	0.3
iv., Flex., etc. . . .			+	0.69

HERCULIS . . . . h. m. s. 16 57 13 / ° ′ ″ 56 15 30.84

				″
ay	24	W.	+	1.9
ne	26	E.	+	2.5
ly	1	S.	—	0.2
ug.	2	E.	+	2.0
	4	W.	+	2.2
	5	E.	+	0.7
	12	W.	+	1.9
lean			+	1.57
iv., Flex., etc. . . .			—	0.38

URSÆ MINORIS . . h. m. s. 16 58 13 / ° ′ ″ 7 46 9.41

				″
ay	27	R.	+	1.6
ne	24	R.	+	0.5
	28	R.	+	0.4
ug.	3	R.	+	1.2
ean			+	0.92
iv., Flex., etc. . . .			—	1.35

ε URSÆ MINORIS (Ref.).

				″
June	28	R.	—	0.9
Aug.	3	R.	—	2.0
Mean			—	1.45
Div., Flex., etc. . . .			+	1.30

	°	′	″
ε URSÆ MIN., S. P. .	352	13	50.59

				″
Dec.	1	R.	—	1.8
	5	R.	—	0.1
Mean			—	0.95
Div., Flex., etc. . . .			—	1.70

α¹ HERCULIS . . . h. m. s. 17 9 13 / ° ′ ″ 75 28 22.59

				″
May	24	W.	+	0.7
	27	R.	+	1.0
June	11	W.	—	0.3
	24	R.	+	1.2
	26	E.	+	1.4
	29	W.	+	1.9
July	3	W.	+	1.3
Aug.	8	W.	+	1.2
	12	W.	+	1.7
Nov.	15	R.	+	3.2
	16	W.	+	2.2
	28	W.	+	2.8
Mean			+	1.52
Div., Flex., etc. . . .			—	0.80

α¹ HERCULIS (Ref.).

				″
May	27	R.	—	1.2
July	3	W.	+	0.9
Mean			—	0.15
Div., Flex., etc. . . .			+	0.52

δ OPHIUCHI . . . h. m. s. 17 19 6 / ° ′ ″ 114 3 51.28

				″
June	12	R.	+	0.7
July	2	R.	+	0.6
	9	S.	+	0.8
Aug.	12	W.	+	1.2
	26	S.	+	0.9
Mean			+	0.84
Div., Flex., etc. . . .			—	0.43

β DRACONIS . . . . h. m. s. 17 27 45 / ° ′ ″ 37 36 36.35

				″
May	24	W.	+	2.8
June	22	E.	+	1.9
Aug.	27	R.	+	1.8
Oct.	27	W.	—	0.3
Nov.	4	W.	+	3.0
	15	R.	+	0.9
Mean			+	1.68
Div., Flex., etc. . . .			—	1.40

β DRACONIS (Ref.).

				″
May	24	W.	—	0.7
June	22	E.	—	0.6
Aug.	27	R.	—	0.4
Mean			—	0.57
Div., Flex., etc. . . .			+	1.00

α OPHIUCHI . . . . h. m. s. 17 29 25 / ° ′ ″ 77 21 8.07

				″
July	2	R.	+	3.3
Aug.	8	W.	+	2.1
	23	R.	+	0.2
	26	S.	+	1.7
Oct.	15	W.	+	1.3
Nov.	4	W.	+	3.8
	15	R.	+	1.9
	17	E.	+	2.8
	28	W.	+	2.3
Mean			+	2.16
Div., Flex., etc. . . .			—	0.84

ω DRACONIS . . . . h. m. s. 17 37 39 / ° ′ ″ 21 11 14.02

				″
June	29	W.	+	2.2
July	3	W.	+	3.4
	9	S.	+	2.9
Mean			+	2.83
Div., Flex., etc. . . .			—	1.61

ω DRACONIS (Ref.).

				″
July	3	W.	—	1.4
	9	S.	—	1.3
Mean			—	1.35
Div., Flex., etc. . . .			+	1.46

μ HERCULIS . . . . h. m. s. 17 41 48 / ° ′ ″ 62 12 31.99

				″
June	11	W.	—	0.6
Aug.	12	W.	+	1.1
	20	W.	+	2.0
	23	R.	+	1.5
	25	E.	+	2.2
	26	S.	+	1.7
Oct.	27	W.	+	1.0
Nov.	4	W.	+	2.2
	15	R.	+	1.4
	16	W.	+	2.1
	17	E.	+	1.4
Mean			+	1.45
Div., Flex., etc. . . .			—	0.55

ψ¹ DRACONIS . . . h. m. s. 17 44 3 / ° ′ ″ 17 47 35.73

				″
June	12	R.		0.0
Aug.	3	R.		0.0
Oct.	27	W.	+	0.6

ψ¹ DRACONIS—Continued.

				″
Nov.	4	W.	+	3.9
	15	R.	+	1.9
Mean			+	1.28
Div., Flex., etc. . . .			—	1.55

γ DRACONIS . . . . h. m. s. 17 53 51 / ° ′ ″ 38 29 48.00

				″
Jan.	23	W.	+	1.2
	27	W.	—	0.3
June	11	W.	+	2.4
Nov.	15	R.	+	3.1
	17	E.	+	1.3
	28	W.	+	1.0
Mean			+	1.45
Div., Flex., etc. . . .			—	1.39

γ DRACONIS (Ref.).

				″
June	11	W.	—	1.2
Nov.	15	R.	+	1.4
Mean			+	0.10
Div., Flex., etc. . . .			+	1.01

γ² SAGITTARII . . h. m. s. 17 58 10 / ° ′ ″ 120 25 25.91

				″
May	24	W.	+	2.1
June	11	W.	—	1.1
July	1	S.	—	0.5
	2	R.	+	1.2
	9	S.	—	0.4
	18	R.	—	1.4
Aug.	8	W.	+	0.4
	15	R.	—	0.7
	16	W.	—	0.2
	22	W.		0.0
	23	R.	—	0.4
	27	R.	+	1.0
Mean				0.00
Div., Flex., etc. . . .			—	0.21

μ SAGITTARII . . h. m. s. 18 6 39 / ° ′ ″ 111 5 18.28

				″
July	3	W.	+	2.2
	18	R.	—	0.9
Aug.	12	W.	+	1.6
	16	W.	—	0.7
	27	R.	+	1.0
	29	E.	+	2.2
Mean			+	0.90
Div., Flex., etc. . . .			—	0.50

δ URSÆ MINORIS . h. m. s. 18 10 43 / ° ′ ″ 3 23 25.98

				″
June	11	W.	+	1.8
	26	E.	+	2.6

δ Ursæ Minoris—Continued.

				″
June	28	R.	+	0.7
July	2	R.	+	2.4
	3	W.	+	2.6
	5	S.	+	2.1
	18	R.	+	1.0
Aug.	2	E.	+	2.6
	3	R.	+	0.7
	4	W.	+	2.9
	8	W.	+	1.8
	12	W.	+	2.4
	15	R.	+	0.8
	16	W.	+	1.5
	20	W.	+	2.8
	23	R.	+	0.3
	25	E.	+	2.9
	26	S.	+	1.8
	27	R.	+	0.9
	29	E.	+	2.0
Oct.	27	W.	—	0.5
Nov.	4	W.	+	2.3
	15	R.	+	0.7
	17	E.	+	0.6
	28	W.	—	0.3
Mean			+	1.58
Div., Flex., etc.			—	1.43

δ Ursæ Minoris, S. P. 356° 36′ 34″.02

				″
Jan.	17	E.	+	1.8
	22	S.	+	2.5
	24	W.	+	2.3
	27	R.	+	0.5
	28	W.	+	1.7
Feb.	5	W.	+	1.7
	16	R.	+	3.2
	17	W.	+	2.3
	19	S.	+	0.8
Mar.	10	E.	+	2.0
July	17	R.	—	0.1
Dec.	5	R.	+	0.7
	17	R.	—	0.8
	23	E.	+	0.7
Mean			+	1.38
Div., Flex., etc.			—	1.56

η Serpentis . . . 18h 15m 9s, 92° 55′ 41″.69

				″
June	18	E.	+	2.7
	22	E.	+	2.8
	26	E.	+	3.1
Aug.	5	E.	+	2.0
	20	W.	+	2.5
	25	E.	+	2.7
	29	E.	+	2.7
	30	S.	+	3.0
Nov.	17	E.	+	2.8
	28	W.	+	0.4
Mean			+	2.47
Div., Flex., etc.			—	0.45

1 Aquilæ . . . . 18h 28m 44s, 98° 19′ 33″.63

				″
June	11	W.	+	1.1
	18	E.	+	0.4
	22	E.	+	2.0
	26	E.	+	0.7
	28	R.		0.0
July	5	S.	+	0.5
	8	E.	+	1.4

1 Aquilæ—Continued.

				″
Aug.	2	E.	+	0.7
	5	E.	+	0.3
	15	R.	—	0.5
	20	W.	+	1.8
	25	E.	+	1.5
	26	S.	+	1.0
	27	R.	+	0.3
	30	S.	+	2.8
Mean			+	0.93
Div., Flex., etc.			—	0.34

α Lyræ . . . . . 18h 32m 55s, 51° 19′ 35″.04

				″
Jan.	23	W.	+	0.9
	25	S.	—	0.3
	27	W.	—	0.2
Feb.	4	W.	—	0.1
June	11	W.	+	1.9
	18	E.	+	2.1
	22	E.	+	2.1
	26	E.	+	1.6
	28	R.	+	0.5
	29	W.	+	0.8
July	5	S.	+	0.6
	8	E.	+	0.8
	9	S.	+	0.8
Aug.	2	E.	+	2.3
	20	W.	+	1.7
	26	S.	+	0.4
	30	S.	+	1.8
Oct.	27	W.	—	0.9
Nov.	4	W.	+	1.9
	17	E.	+	1.4
	25	E.		0.0
	28	W.	+	0.6
Dec.	9	R.	—	1.1
	16	S.	+	1.1
Mean			+	0.86
Div., Flex., etc.			—	0.81

β Lyræ . . . . . 18h 45m 41s, 56° 46′ 29″.13

				″
Jan.	27	W.	+	0.1
Feb.	3	R.	+	0.9
July	1	S.	+	1.3
	5	S.	—	0.4
	8	E.	—	0.3
Aug.	5	E.		0.0
	29	E.	+	0.4
Nov.	25	E.	+	0.4
	28	W.	—	1.3
Dec.	9	R.	+	0.2
Mean			+	0.13
Div., Flex., etc.			—	0.34

σ Sagittarii . . 18h 47m 53s, 116° 26′ 34″.63

				″
July	1	S.	+	0.2
	5	S.	+	1.2
Aug.	2	E.	+	1.0
Nov.	28	W.	—	1.6
Mean			+	0.20
Div., Flex., etc.			—	0.31

50 Draconis . . . 18h 50m 12s, 14° 42′ 25″.68

				″
July	2	R.	+	2.4
Div., Flex., etc.			—	1.56

ζ Aquilæ . . . . . 18h 59m 56s, 76° 18′ 44″.57

				″
Jan.	25	S.	+	1.4
	27	W.	+	3.4
Feb.	3	R.	+	0.9
	4	W.	+	1.3
	13	E.	+	0.8
	15	R.	+	0.4
June	11	W.	+	0.6
	12	R.	+	1.6
	28	R.	+	1.5
	29	W.	+	1.3
July	2	R.	+	2.3
	6	R.	+	2.3
	8	E.	+	1.7
	18	R.	+	1.4
Aug.	2	E.	+	1.3
	15	R.	+	0.4
	16	W.	+	0.2
	24	W.	+	1.9
	25	E.	+	1.4
	27	R.	+	2.4
	30	S.	+	1.3
Sept.	19	S.	+	1.8
Oct.	10	R.	+	3.1
Nov.	25	E.	+	0.9
	28	W.	+	0.4
Dec.	9	R.	+	1.9
	16	S.	+	1.6
Mean			+	1.46
Div., Flex., etc.			—	0.83

ζ Aquilæ (Ref.).

				″
June	11	W.	—	0.3
Div., Flex., etc.			+	0.55

d Sagittarii . . . 19h 10m 40s, 109° 9′ 47″.77

				″
June	12	R.	—	0.5
	29	W.	+	0.1
July	6	R.	+	0.7
Aug.	11	R.	+	2.5
	23	R.	—	1.1
	24	W.	+	1.1
	27	R.	+	0.8
	30	S.	—	0.1
Sept.	19	S.	+	0.5
Mean			+	0.44
Div., Flex., etc.			—	0.46

ϑ Draconis . . . . 19h 12m 31s, 22° 32′ 52″.00

				″
Jan.	17	R.	+	1.3
	25	S.	+	0.2
	26	R.	—	0.8
	27	W.	+	1.2

δ Draconis—Continued.

				″
Feb.	3	R.	+	0.8
	15	R.	+	0.3
July	2	R.	+	2.6
	18	R.	+	0.8
Aug.	12	W.	+	3.0
Dec.	9	R.	—	0.3
	17	R.	—	0.3
Mean			+	0.80
Div., Flex., etc.			—	1.61

δ Draconis (Ref.).

				″
July	2	R.	—	0.3
	18	R.	—	0.5
Aug.	12	W.	—	1.7
Mean			—	0.83
Div., Flex., etc.			+	1.43

δ Draconis, S. P. . . 337° 27′ 8″.00

				″
Feb.	19	S.	+	1.4
Div., Flex., etc.			—	1.29

τ Draconis . . . . 19h 17m 50s, 16° 51′ 57″.18

				″
June	12	R.	+	1.0
Aug.	15	R.	+	2.0
	23	R.	+	1.8
Mean			+	1.60
Div., Flex., etc.			—	1.53

τ Draconis (Ref.).

				″
Aug.	15	R.		0.0
	23	R.	+	0.7
Mean			+	0.35
Div., Flex., etc.			+	1.48

δ Aquilæ . . . . . 19h 19m 30s, 87° 7′ 16″.92

				″
Feb.	4	W.	+	0.3
July	8	E.	+	0.5
Aug.	11	R.	+	1.1
	12	W.	+	0.8
	16	W.	+	1.0
	30	S.	+	1.4
Dec.	17	R.		0.0
Mean			+	0.73
Div., Flex., etc.			—	0.61

δ Aquilæ (Ref.).

				″
Aug.	12	W.	+	1.3
Div., Flex., etc.			+	0.60

κ Aquilæ . . . . . 19h 30m 29s, 97° 17′ 26″.87

				″
June	24	R.	+	0.7
	29	W.	+	1.6

κ AQUILÆ—Continued.

				″
ıly	2	R.	+	1.4
	15	W.	+	1.1
	19	W.	+	1.1
ıug.	11	R.	+	1.4
	24	W.	+	1.2
ept.	29	S.	+	2.1
ct.	13	S.	+	1.5
Iean			+	1.34
›iv., Flex., etc.			—	0.34

κ AQUILÆ (Ref.).

				″
ıne	29	W.	—	1.4
ıly	2	R.	+	0.2
ug.	11	R.	+	1.1
Iean			—	0.03
›iv., Flex., etc.			+	0.54

AQUILÆ . . . . . h. m. s. 19 40 36; ° ′ ″ 79 40 32.68

				″
ın.	27	W.	+	1.2
eb.	3	R.	+	0.1
	13	E.	—	0.4
	16	W.	—	1.7
	23	R.	+	0.1
ıne	24	R.	+	2.0
ıly	15	W.	+	2.4
	16	E.	+	2.5
	19	W.	+	2.3
ıug.	24	W.	+	2.0
	25	E.	+	0.9
ept.	29	S.	+	0.7
ct.	17	S.	+	1.9
Iov.	25	E.	+	0.9
›ec.	17	R.	+	1.4
Iean			+	1.09
›iv., Flex., etc.			—	0.79

γ AQUILÆ (Ref.).

				″
ıug.	25	E.	—	0.5
›iv., Flex., etc.			+	0.69

URSÆ MINORIS . h. m. s. 19 43 8; ° ′ ″ 1 3 14.66

				″
ıne	24	R.	+	4.0
ıly	2	R.	+	3.2
	6	R.	+	3.0
	10	R.	+	1.7
	14	R.	+	2.2
	15	W.	—	2.0
	18	R.	+	1.9
	19	W.	+	2.7
ıug.	3	R.	+	1.8
	11	R.	+	2.3
	15	R.	+	1.7
	24	W.	+	2.9
	27	R.	+	3.1
	30	S.	+	2.6
ept.	5	R.	+	3.1
	19	S.	+	1.9
	24	R.	+	3.0
	29	S.	+	2.8
›ct.	1	S.	+	4.1
	6	R.	+	2.7
	8	R.	+	2.4
	10	R.	+	3.9
	13	S.	+	0.9

λ URSÆ MINORIS—Continued.

				″
Oct.	22	R.	+	4.0
	26	R.	+	2.4
Mean			+	2.49
Div., Flex., etc.			—	1.43

λ URSÆ MIN., S. P., 358° 56′ 45″.34

				″
Feb.	16	R.	+	4.4
March	11	S.	+	0.6
	24	R.	+	1.8
April	5	R.	+	1.2
Oct.	15	W.	+	2.5
Mean			+	2.10
Div., Flex., etc.			—	1.45

α AQUILÆ . . . . . h. m. s. 19 44 59; ° ′ ″ 81 26 41.89

				″
Jan.	25	S.	+	1.1
	26	R.	—	1.9
	27	W.	+	0.6
Feb.	3	R.	—	0.5
	4	W.	—	0.1
	13	E.	—	1.4
	15	R.	+	1.4
	16	W.	—	3.1
	23	R.	—	2.5
Aug.	16	W.	+	1.0
Nov.	25	E.	—	0.7
Dec.	17	R.	+	0.5
	24	S.	+	1.7
Mean			+	0.30
Div., Flex., etc.			—	0.82

α AQUILÆ (Ref.).

				″
Aug.	16	W.	—	1.6
Div., Flex., etc.			+	0.69

ε DRACONIS . . . . h. m. s. 19 48 34; ° ′ ″ 20 2 6.56

				″
Aug.	25	E.	+	2.3
Div., Flex., etc.			—	1.60

ε DRACONIS (Ref.).

				″
Aug	25	E.	—	1.4
Div., Flex., etc.			+	1.53

β AQUILÆ . . . . h. m. s. 19 49 28; ° ′ ″ 83 53 22.25

				″
July	16	E.	+	1.3
Aug.	3	R.	+	1.1
Sept.	24	R.	+	2.8
Oct.	8	R.	+	2.2
Dec.	24	S.	+	2.4
Mean			+	1.96
Div., Flex., etc.			—	0.83

τ AQUILÆ . . . . . h. m. s. 19 58 20; ° ′ ″ 83 3 25.05

				″
June	24	R.	+	1.7

τ AQUILÆ—Continued.

				″
July	10	R.	+	0.9
	15	W.	+	2.8
	19	W.	+	2.5
Aug.	3	R.	+	0.3
	8	W.	+	2.7
	11	R.	+	1.3
	12	W.	+	2.1
	15	R.	+	0.1
Sept.	20	R.	—	0.1
	24	R.	+	2.0
	29	S.	+	1.7
Oct.	6	R.	+	1.1
	8	R.	+	2.2
	26	R.	+	0.9
Mean			+	1.48
Div., Flex., etc.			—	0.84

α² CAPRICORNI . . h. m. s. 20 11 27; ° ′ ″ 102 54 45.21

				″
July	2	R.	+	1.5
	6	R.	+	2.3
	10	R.	+	1.8
	14	R.	+	1.1
	16	E.	+	0.6
Aug.	12	W.	+	2.4
	16	W.	+	1.4
	23	R.	+	0.7
	27	R.	+	1.1
Sept.	5	R.	+	1.9
	19	S.	+	0.5
	29	S.	+	1.6
Oct.	1	S.	+	0.8
	6	R.	+	1.3
	8	R.	+	2.7
	10	R.	+	1.6
	11	W.		0.0
	13	S.	+	1.3
	21	S.	+	0.7
	22	R.	+	3.2
	25	S	+	1.3
	26	R.		0.0
Mean			+	1.35
Div., Flex., etc.			—	0.55

κ CEPHEI . . . . . h. m. s. 20 12 52; ° ′ ″ 12 38 51.44

				″
June	24	R.	+	2.7
Aug.	3	R.	+	2.2
	29	E.	+	3.0
Mean			+	2.63
Div., Flex., etc.			—	1.61

κ CEPHEI (Ref.).

				″
June	24	R.	—	0.2
Aug.	3	R.	—	0.4
	29	E.	—	0.1
Mean			—	0.23
Div., Flex., etc.			+	1.29

γ CYGNI . . . . . h. m. s. 20 17 58; ° ′ ″ 50 7 25.14

				″
Jan.	18	R.	+	1.2
	26	R.	+	1.8
	27	W.	+	2.2

γ CYGNI—Continued.

				″
Feb.	11	R.	—	0.3
	16	W.	—	0.6
	23	R.	—	0.5
	25	E.	+	1.9
July	2	R.	+	1.5
	6	R.	+	1.1
	10	R.	+	1.0
	14	R.	+	1.3
	15	W.	+	1.5
	16	E.	+	1.5
	19	W.	+	3.0
Aug.	12	W.	+	1.2
	16	W.	+	1.2
	23	R.	+	2.9
	29	E.	+	1.4
Sept.	5	R.	+	2.6
	24	R.	+	1.6
	29	S.	+	1.3
Oct.	5	S.	+	0.2
	6	R.	+	1.0
	8	R.	+	1.7
	10	R.	+	2.9
	11	W.	—	0.9
	17	S.	+	2.1
	21	S.	+	0.9
	22	R.	+	2.6
	26	R.	+	2.8
Dec.	17	R.	+	1.8
	31	E.	—	0.5
Mean			+	1.35
Div., Flex., etc.			—	0.95

π CAPRICORNI . . h. m. s. 20 20 31; ° ′ ″ 108 36 2.60

				″
June	24	R.	+	1.3
July	2	R.	+	2.2
	14	R.	+	1.1
Aug.	3	R.	+	1.2
	12	W.	+	1.9
	23	R.	+	0.1
Sept.	5	R.	+	1.4
	20	R.	—	0.5
Oct.	8	R.	+	1.0
	26	R.	+	1.9
Mean			+	1.16
Div., Flex., etc.			—	0.46

ε DELPHINI . . . . h. m. s. 20 27 32; ° ′ ″ 79 6 0.81

				″
June	24	R.	+	1.6
July	2	R.	+	1.2
	6	R.	+	2.2
Aug.	16	W.	+	0.9
	23	R.	+	1.2
	25	E.	+	1.8
	27	R.	+	1.2
	29	E.	+	1.5
Sept.	5	R.	+	2.0
	20	R.	+	0.9
	24	R.	+	3.3
Oct.	1	S.	+	1.0
	5	S.	—	0.5
	6	R.	+	1.6
	10	R.	+	2.1
	11	W.		0.0
	20	E.	+	1.5
	22	R.	+	3.2
	26	R.	+	1.7
Mean			+	1.49
Div., Flex., etc.			—	0.80

ε Delphini (Ref.).

			″
Sept.	24	R.	− 0.2
Div., Flex., etc.			+ 0.68

Groombridge 3241 . h. m. s. 20 30 31; ° ′ ″ 17 52 17.66

			″
Sept.	20	R.	+ 4.4
	30	R.	+ 2.6
Oct.	11	W.	+ 1.5
	13	S.	+ 1.4
Mean			+ 2.48
Div., Flex., etc.			− 1.55

Groom. 3241, S. P., 342° 7′ 42″.34

			″
March	29	W.	+ 1.7
Div., Flex., etc.			− 1.50

α Cygni . . . . . h. m. s. 20 37 23; ° ′ ″ 45 8 39.84

			″
Jan.	18	R.	+ 1.2
	26	R.	− 1.3
	27	W.	+ 1.7
Feb.	11	R.	+ 1.6
	15	R.	+ 1.2
	16	W.	− 1.3
	23	R.	− 1.1
	25	E.	+ 1.8
March	7	R.	+ 1.3
July	6	R.	+ 1.0
Aug.	23	R.	+ 1.2
	24	W.	+ 1.5
Sept.	5	R.	+ 2.4
Oct.	6	R.	+ 1.6
	11	W.	+ 0.9
	20	E.	+ 2.4
	26	R.	+ 2.9
Dec.	31	E.	+ 0.1
Mean			+ 1.61
Div., Flex., etc.			− 1.24

α Cygni (Ref.).

			″
July	6	R.	+ 0.5
Aug.	23	R.	+ 0.5
	24	W.	− 0.3
Sept.	5	R.	+ 0.7
Oct.	6	R.	+ 1.2
	20	E.	0.0
	26	R.	+ 0.8
Mean			+ 0.49
Div., Flex., etc			+ 0.73

μ Aquarii . . . . h. m. s. 20 46 14; ° ′ ″ 99 25 44.14

			″
June	24	R.	+ 2.5
July	6	R.	+ 1.0
Aug.	3	R.	+ 0.6
	25	E.	0.0
	29	E.	+ 0.6
Sept.	20	R.	+ 0.5
	30	R.	− 0.1
Oct.	1	S.	− 0.1
	6	R.	− 0.3
Mean			+ 0.52
Div., Flex., etc			− 0.39

μ Aquarii (Ref.).

			″
June	24	R.	+ 0.6
July	6	R.	− 0.5
Aug.	3	R.	+ 0.6
Sept.	20	R.	− 0.3
Mean			+ 0.10
Div., Flex., etc.			+ 0.53

ν Cygni. . . . . h. m. s. 20 52 44; ° ′ ″ 49 17 25.61

			″
July	14	R.	+ 3.0
Aug.	8	W.	+ 2.1
	25	E.	+ 1.0
	29	E.	+ 1.3
Sept.	20	R.	+ 1.0
	30	R.	+ 0.9
Oct.	1	S.	+ 1.5
	5	S.	+ 0.1
	6	R.	+ 0.1
	10	R.	+ 2.1
Mean			+ 1.31
Div., Flex., etc.			− 1.01

12 Year. Cat., 1879 h. m. s. 20 52 56; ° ′ ″ 9 53 41.40

			″
Aug.	23	R.	+ 1.9
Oct.	11	W.	+ 0.2
Mean			+ 1.05
Div., Flex., etc.			− 1.45

12 Yr.Cat., 1879, S.P. 350° 6′ 18″.60

			″
March	7	S.	− 0.3
April	2	W.	+ 1.5
Mean			+ 0.60
Div., Flex., etc.			− 1.62

61¹ Cygni . . . . . h. m. s. 21 1 34; ° ′ ″ 51 50 6.54

			″
April	22	W.	+ 2.4
July	10	R.	+ 0.7
	11	W.	− 0.8
	14	R.	+ 2.7
	18	R.	+ 1.0
Aug.	8	W.	+ 0.9
	23	R.	+ 1.2
	27	R.	+ 1.6
Sept.	30	R.	+ 1.1
Oct.	1	S.	+ 0.7
	5	S.	− 1.4
	6	R.	+ 0.9
	8	R.	+ 1.1
	20	E.	+ 0.8
	21	S.	+ 0.7
	22	R.	+ 2.1
	25	S.	+ 1.1
Mean			+ 0.99
Div., Flex., etc.			− 0.75

ζ Cygni . . . . . h. m. s. 21 7 52; ° ′ ″ 60 15 38.28

			″
Feb.	11	R.	+ 0.8
	15	R.	+ 2.0
	24	W.	− 0.6
	25	E.	+ 0.4
March	6	S.	− 1.6
April	22	W.	+ 1.4
July	11	W.	+ 0.4
Aug.	8	W.	+ 0.7
	24	W.	+ 0.7
Oct.	7	W.	+ 0.8
	10	R.	+ 1.8
	17	S.	+ 0.9
	20	E.	+ 0.8
	21	S.	0.0
	25	S.	+ 0.3
Dec.	24	S.	+ 0.2
	31	E.	− 0.9
Mean			+ 0.48
Div., Flex., etc.			− 0.45

ζ Cygni (Ref.).

			″
Oct.	10	R.	− 2.8
Div., Flex., etc.			+ 0.43

α Cephei . . . . . h. m. s. 21 15 44; ° ′ ″ 27 55 6.05

			″
Feb.	11	R.	+ 3.3
	15	R.	+ 2.1
	23	R.	− 0.8
	24	W.	+ 0.6
	25	E.	+ 2.5
March	7	R.	+ 0.3
April	22	W.	+ 3.2
July	11	W.	+ 1.4
	14	R.	+ 1.9
Sept.	29	S.	+ 1.3
	30	R.	+ 1.2
Oct.	5	S.	+ 1.3
	17	S.	+ 1.0
Mean			+ 1.48
Div., Flex., etc.			− 1.42

α Cephei (Ref.).

			″
July	14	R.	− 0.6
Sept.	29	S.	− 1.6
	30	R.	− 1.5
Mean			− 1.23
Div., Flex., etc.			+ 1.36

α Cephei, S. P. . . 332° 4′ 53″.95

			″
March	25	W.	+ 0.3
April	4	S.	+ 1.9
	15	E.	+ 3.0
	16	S.	− 1.9
	22	W.	+ 0.6
Nov.	13	E.	+ 4.2
Mean			+ 1.35
Div., Flex., etc.			− 1.19

1 Pegasi . . . . . h. m. s. 21 16 35; ° ′ ″ 70 42 14.38

			″
July	23	W.	+ 0.4
Aug.	24	W.	+ 1.2

1 Pegasi—Continued.

			″
Aug.	26	S.	+ 1.6
Sept.	5	R.	+ 1.5
Oct.	22	R.	+ 1.9
	26	R.	+ 2.7
Nov.	14	S.	+ 1.1
Dec.	24	S.	+ 1.2
Mean			+ 1.45
Div., Flex., etc.			− 0.67

1 Pegasi (Ref.).

			″
Oct.	22	R.	+ 0.4
	26	R.	+ 0.1
Mean			+ 0.25
Div., Flex., etc.			+ 0.46

β Aquarii. . . . . h. m. s. 21 25 18; ° ′ ″ 96 5 38.29

			″
March	6	S.	− 0.7
April	22	W.	+ 1.9
July	11	W.	− 0.7
	15	W.	+ 2.0
Sept.	30	R.	+ 1.1
Oct.	5	S.	− 0.7
Dec.	24	S.	+ 1.8
Mean			+ 0.67
Div., Flex., etc.			− 0.40

β Cephei . . . . . h. m. s. 21 27 7; ° ′ ″ 19 57 41.70

			″
Feb.	15	R.	0.0
	23	R.	− 0.7
	24	W.	+ 1.5
Mean			+ 0.27
Div., Flex., etc.			− 1.60

ξ Aquarii . . . . . h. m. s. 21 31 25; ° ′ ″ 98 23 13.74

			″
July	11	W.	+ 0.1
	15	W.	+ 1.4
Aug.	15	R.	+ 0.3
	24	W.	+ 0.7
	26	S.	+ 0.8
Sept.	5	R.	+ 1.5
	30	R.	+ 0.2
Oct.	5	S.	− 1.3
	13	S.	+ 0.6
	25	S.	+ 1.3
Nov.	14	S.	+ 0.1
Mean			+ 0.52
Div., Flex., etc.			− 0.34

ε Pegasi . . . . . h. m. s. 21 38 21; ° ′ ″ 80 40 11.87

			″
Jan.	26	S.	+ 1.8
Feb.	23	R.	− 0.8
	24	W.	− 0.9
Mar.	6	S.	− 0.2
	10	S.	− 0.3
	27	R.	+ 1.4
July	11	W.	− 0.5
	15	W.	+ 1.6
	18	R.	+ 1.1

ε Pegasi—Continued.

				″
July	23	W.	+	0.7
Aug.	8	W.	+	2.0
	15	R.	+	0.3
	26	S.	+	1.6
	27	R.	+	1.5
Sept.	30	R.	+	1.2
Oct.	7	W.	+	0.1
	13	S.	+	0.9
Nov.	14	S.	+	1.3
Mean			+	0.71
Div., Flex., etc.			—	0.79

ε Pegasi (Ref.).

				″
Aug.	8	W.	+	0.1
	27	R.	+	0.4
Mean			+	0.25
Div., Flex., etc.			+	0.69

11 Cephei . . . . . h. m. s. 21 40 11; ° ′ ″ 19 14 10.77

				″
Aug.	15	R.	+	0.4
Sept.	19	S.	+	1.0
Nov.	15	R.	+	2.0
Mean			+	1.13
Div., Flex., etc.			—	1.58

11 Cephei, S. P. . . ° ′ ″ 340 45 49.23

				″
Nov.	14	S.	+	1.7
Div., Flex., etc.			—	1.42

μ Capricorni . . . h. m. s. 21 46 48; ° ′ ″ 104 6 40.52

				″
July	18	R.	+	0.7
Aug.	15	R.	+	1.1
Oct.	5	S.	—	1.4
	7	W.	+	1.5
	8	R.	+	1.8
	13	S.	+	2.0
Nov.	15	R.	+	1.2
	27	R.	+	1.8
Mean			+	1.09
Div., Flex., etc.			—	0.51

79 Draconis. . . . h. m. s. 21 51 23; ° ′ ″ 16 51 38.05

				″
July	18	R.	+	2.0
Aug.	15	R.	+	1.2
Oct.	7	W.	+	2.0
Nov.	15	R.	+	2.6
Mean			+	1.95
Div. Flex., etc.			—	1.53

79 Draconis, S. P. . ° ′ ″ 343 8 21.95

Mar.	13	W.		0.0
Div., Flex., etc.			—	1.54

α Aquarii . . . . . h. m. s. 21 59 40; ° ′ ″ 90 53 50.69

α Aquarii—Continued.

				″
Jan.	28	W.	+	2.0
Mar.	6	S.	+	0.2
	27	R.	+	0.2
April	22	W.	+	2.2
July	19	W.	+	2.4
	23	W.	+	1.0
Aug.	15	R.	+	2.2
Sept.	30	R.	+	1.4
Oct.	7	W.	+	1.2
	8	R.	+	2.0
	11	W.	+	1.1
Nov.	14	S.	+	1.2
Mean			+	1.42
Div., Flex., etc.			—	0.48

α Aquarii (Ref.).

				″
Aug.	15	R.	+	1.6
Sept.	30	R.	—	0.9
Oct.	11	W.	—	4.7
Mean			—	1.33
Div., Flex., etc.			+	0.63

α Gruis . . . . . h. m. s. 22 0 44; ° ′ ″ 137 32 10.86

				″
Oct.	10	R.	+	6.4
	17	S.	+	8.5
	25	S.	+	5.9
Nov.	15	R.	+	8.8
Mean			+	7.40
Div., Flex., etc.			+	0.03

θ Aquarii . . . . . h. m. s. 22 10 33; ° ′ ″ 98 22 31.12

				″
July	23	W.	+	1.4
Aug.	11	R.	+	1.2
Sept.	29	S.	+	1.0
Oct.	7	W.	+	1.6
	22	R.	+	2.4
Nov.	15	R.	+	0.9
	27	R.	+	1.4
Mean			+	1.41
Div., Flex., etc			—	0.34

θ Aquarii (Ref.).

				″
Oct.	22	R.	+	0.1
Div., Flex., etc.			+	0.54

π Aquarii. . . . . h. m. s. 22 19 12; ° ′ ″ 89 13 33.56

				″
July	18	R.	+	1.7
	19	W.	+	1.5
Aug.	11	R.	+	1.0
	20	W.	+	1.2
	27	R.	—	0.4
Sept.	19	S.	+	0.3
	29	S.	+	1.1
Oct.	8	R.	+	1.8
	10	R.	+	1.6
	17	S.	+	1.7
Nov.	27	R.	+	1.7
Mean			+	1.20
Div., Flex., etc.			—	0.52

π Aquarii (Ref.).

				″
July	18	R.	+	0.3
Div., Flex., etc.			+	0.69

η Aquarii . . . . . h. m. s. 22 29 14; ° ′ ″ 90 43 49.57

				″
Aug.	23	R.	+	1.2
Sept.	19	S.	+	1.1
Nov.	27	R.	+	1.2
Mean			+	1.17
Div., Flex., etc.			—	0.49

226 Cephei . . . . h. m. s. 22 30 11; ° ′ ″ 14 23 12.38

				″
July	15	W.	+	1.9
	18	R.	+	1.5
Aug.	11	R.	+	1.7
Oct.	8	R.	+	2.4
Nov.	15	R.	+	2.5
Mean			+	2.00
Div., Flex., etc.			—	1.56

226 Cephei (Ref.).

				″
July	15	W.	—	1.2
Div., Flex., etc.			+	1.31

ζ Pegasi. . . . . h. m. s. 22 35 32; ° ′ ″ 79 47 22.09

				″
Jan.	26	S.	+	2.6
	28	W.	+	2.1
Feb.	4	R.	+	1.8
Mar.	27	R.	+	0.8
April	10	E.	+	0.4
July	16	E.	+	1.9
Aug.	11	R.	+	1.4
Oct.	8	R.	+	2.9
Nov.	15	R.	+	2.4
	27	R.	+	1.0
Mean			+	1.73
Div., Flex., etc.			—	0.78

ι Cephei . . . . . h. m. s. 22 45 27; ° ′ ″ 24 25 31.21

				″
Jan.	18	R.	—	0.2
	26	S.	+	1.2
	27	R.	—	0.8
	28	W.	+	1.9
Feb.	4	R.	+	0.8
	12	R.	+	2.1
	24	R.	+	0.9
March	27	R.	+	1.1
Aug.	23	R.	+	1.3
Oct.	1	S.	+	1.3
	7	W.	+	0.6
	8	R.	+	1.5
Nov.	15	R.	+	3.0
	27	R.	+	1.9
Mean			+	1.19
Div., Flex., etc.			—	1.55

ι Cephei (Ref.).

				″
Oct.	8	R.	—	0.2
Nov.	15	R.	+	0.1
	27	R.	+	0.3
Mean			+	0.07
Div., Flex., etc.			+	1.46

ι Cephei, S. P. . . . ° ′ ″ 335 34 28.79

				″
May	16	W.	—	0.7
Div., Flex., etc.			—	1.21

λ Aquarii. . . . . h. m. s. 22 46 24; ° ′ ″ 98 12 44.73

				″
July	19	W.	+	2.9
	28	E.	+	1.5
Mean			+	2.20
Div., Flex., etc.			—	0.34

α Piscis Australis . h. m. s. 22 51 4; ° ′ ″ 120 15 9.22

				″
Feb.	12	R.	+	0.6
March	27	R.	—	2.6
April	10	E.	+	0.1
July	24	E.	+	1.8
	28	E.	+	0.8
Aug.	11	R.	+	1.7
Mean			+	0.40
Div., Flex., etc.			—	0.21

α Pegasi . . . . . h. m. s. 22 58 50; ° ′ ″ 75 26 5.26

				″
Jan.	18	R.		0.0
	26	S.	+	1.2
	27	R.	+	0.2
	28	W.	+	0.7
Feb.	4	R.	+	1.0
	12	R.	+	2.5
	14	E.	+	0.6
March	27	R.	+	0.8
April	10	E.	+	0.9
July	24	E.	+	1.2
Aug.	11	R.	+	1.3
Sept.	19	S.	+	0.6
	20	R.	+	0.8
Oct.	17	S.	+	0.8
Nov.	14	S.	+	1.3
	27	R.	+	0.7
Mean			+	0.91
Div., Flex., etc.			—	0.80

ο Cephei . . . . . h. m. s. 23 13 45; ° ′ ″ 22 32 21.77

				″
Aug.	23	R.	+	1.3
	27	R.	+	2.4
Sept.	20	R.	+	2.1
Nov.	28	W.	+	2.5
Mean			+	2.08
Div., Flex., etc.			—	1.62

o Cephei (Ref.).

				″
Sept.	20	R.	—	1.0
Nov.	28	W.	—	1.7
Mean			—	1.35
Div., Flex., etc.			+	1.43

θ Piscium

h. m. s. 23 21 56; ° ′ ″ 84 16 28.66

				″
June	19	S.	+	0.3
July	24	E.	+	1.9
	28	E.	+	2.4
Aug.	27	R.	+	1.2
Sept.	19	S.	+	0.1
	20	R.	—	0.5
	24	R.	+	0.6
	30	R.	+	2.0
Oct.	1	S.	+	0.5
	10	R.	+	0.8
	21	S.	+	1.7
	26	R.	+	0.9
Nov.	16	W.	+	0.2
	28	W.	+	0.3
	29	E.	+	1.8
Dec.	1	R.	+	2.7
Mean			+	1.06
Div., Flex., etc.			—	0.82

ε Piscium

h. m. s. 23 33 50; ° ′ ″ 85 1 6.94

				″
June	19	E.	+	0.2
Aug.	23	R.	+	1.6
	27	R.	+	0.8
Sept.	20	R.	—	0.7
	24	R.		0.0
	30	R.	+	1.5
Oct.	1	S.	+	0.7
	6	R.	+	1.3
	10	R.		0.0
	26	R.	+	0.9
Nov.	5	E.	+	1.8
	8	W.	+	1.3
	16	W.	+	1.4
	28	W.	+	0.8
	29	E.	+	1.9
Mean			+	0.90
Div., Flex., etc.			—	0.79

γ Cephei

h. m. s. 23 34 28; ° ′ ″ 13 1 54.70

				″
Feb.	12	R.	+	0.7
Oct.	21	S.	+	2.3
	26	R.	+	1.1

γ Cephei—Continued.

				″
Nov.	28	W.	+	2.1
Mean			+	1.55
Div., Flex., etc.			—	1.61

γ Cephei, S. P. . . . 346° 58′ 5″.30

				″
April	29	R.	+	1.4
May	7	R.	+	1.6
Oct.	9	R.	+	2.0
	13	R.	—	0.6
	18	W.	—	0.2
Mean			+	0.84
Div., Flex., etc.			—	1.65

Groombridge 4163

h. m. s. 23 49 3; ° ′ ″ 16 15 6.83

				″
Sept.	24	R.	+	1.3
	30	R.	—	0.4
Oct.	10	R.	+	1.8
	11	W.	+	1.4
	26	R.	+	2.1
Nov.	5	E.	+	2.6
	8	W.	+	1.1
	16	W.	+	2.9
	28	W.	+	2.1
Mean			+	1.66
Div., Flex., etc.			—	1.53

Groombridge 4163 (Ref.).

				″
Oct.	26	R.	—	0.9
Nov.	5	E.	—	0.7
	16	W.	+	0.3
Mean			—	0.43
Div., Flex., etc.			+	1.44

Groombridge 4163, S. P. 343° 44′ 53″.17

				″
April	30	W.	+	3.9
May	7	R.	+	1.9
Mean			+	2.90
Div., Flex., etc.			—	1.55

ω Piscium

h. m. s. 23 53 12; ° ′ ″ 83 47 43.95

				″
Sept.	30	R.	—	1.0
Oct.	6	R.	+	0.4
	21	S.	—	1.9
Nov.	5	E.	+	2.3
	8	W.	—	1.7
	28	W.	+	0.7
Dec.	1	R.	+	1.2
	5	R.	+	1.4
Mean			+	0.18
Div., Flex., etc.			—	0.83

MEAN PLACES

OF

MISCELLANEOUS STARS

GIVEN BY

INDIVIDUAL OBSERVATIONS

WITH THE

TRANSIT CIRCLE.

1881.

MEAN PLACES OF MISCELLANEOUS STARS FOR 1881.0

GIVEN BY

INDIVIDUAL OBSERVATIONS

WITH

THE TRANSIT CIRCLE.

B. A. C. 8375.

		h. m. s.	° ′ ″
1	S.	0 0 49.97	129 32 27.9
26	R.	49.96	26.4
5	E.	49.98	28.4
n . . .		0 0 49.97	129 32 27.57
, Flex., etc.		. .	— 0.15

B. A. C. 8376.

		h. m. s.	° ′ ″
22 (7.0)	R.	0 1 20.57	131 8 35.1
25	S.	20.53	34.3
n . . .		0 1 20.55	131 8 34.70
, Flex., etc.		. .	— 0.09

B. A. C. 2.

		h. m. s.	° ′ ″
26	R.	0 2 0.71	124 11 31.4
14	S.	0.67	30.0
1	R.	0.51	32.7
n . . .		0 2 0.63	124 11 31.37
, Flex., etc.		. .	— 0.16

B. A. C. 22.

		h. m. s.	° ′ ″
22 (6.5)	R.	0 5 17.16	131 2 10.5
25	S.	16.95	8.0
n . . .		0 5 17.06	131 2 9.25
., Flex., etc.		. .	— 0.09

B. A. C. 24.

		h. m. s.	° ′ ″
21	S.	0 5 41.14	125 47 56.7
., Flex., etc.		. .	— 0.17

Weisse (2) 100.

		h. m. s.	° ′ ″
26	R.	0 5 52.27	67 11 28.1
4	W.	52.22	27.6
14	S.	52.24	27.0
n . . .		0 5 52.24	67 11 27.57
., Flex., etc.		. .	— 0.57

B. A. C. 62.

		h. m. s.	° ′ ″
22	R.	0 13 21.95	99 29 3.6
16	W.	21.95	1.7
n . . .		0 13 21.95	99 29 2.65
., Flex., etc.		. .	— 0.39

B. A. C. 79.

		h. m. s.	° ′ ″
July 22	R.	0 17 . .	38 38 25.1
Sept. 24	R.	. .	24.7
Oct. 26	R.	51.34	25.0
Nov. 4	W.	. .	25.7
28	W.	. .	25.6
Dec. 17	R.	. .	26.3
Mean . . .		0 17 51.34	38 38 25.40
Div., Flex., etc.		. .	— 1.39

B. A. C. 79 (Ref.).

		h. m. s.	° ′ ″
July 22	R.	. .	38 38 22.5
Sept. 24	R.	. .	23.2
Nov. 4	W.	. .	22.7
28	W.	. .	23.3
Dec. 17	R.	. .	23.8
Mean . . .		. .	38 38 23.10
Div., Flex., etc.		. .	+ 1.01

B. A. C. 118.

		h. m. s.	° ′ ″
Oct. 20	E.	0 24 39.17	130 10 30.5
22	R.	39.09	29.2
26	R.	39.12	27.3
Mean . . .		0 24 39.13	130 10 29.00
Div., Flex., etc.		. .	— 0.12

B. A. C. 126.

		h. m. s.	° ′ ″
Feb. 5	W.	0 26 14.76	27 43 32.5
Nov. 25	E.	. .	32.7
Mean . . .		0 26 14.76	27 43 32.60
Div., Flex., etc.		. .	— 1.43

B. A. C. 126 (Ref.).

		h. m. s.	° ′ ″
Nov. 25	E.	. .	27 43 30.7
Div., Flex., etc.		. .	+ 1.37

B. A. C. 144.

		h. m. s.	° ′ ″
Oct. 11	W.	0 28 51.21	128 39 9.7
20	E.	51.46	10.5
Mean . . .		0 28 51.34	128 39 10.10
Div., Flex., etc.		. .	— 0.18

B. A. C. 166.

		h. m. s.	° ′ ″
Feb. 5	W.	0 32 57.91	59 47 26.4
Oct. 22	R.	58.03	26.9
Nov. 5	E.	. .	27.2
16	W.	. .	30.0
29	E.	. .	27.1
Mean . . .		0 32 57.97	59 47 27.52
Div., Flex., etc.		. .	— 0.42

B. A. C. 166 (Ref.).

		h. m. s.	° ′ ″
Nov. 5	E.	. .	59 47 26.5
16	W.	. .	28.3
29	E.	. .	25.7
Mean . . .		. .	59 47 26.83
Div., Flex., etc.		. .	+ 0.43

Anonymous.

		h. m. s.	° ′ ″
Sept. 24 (11.5)	R.	0 35 8.87	81 31 29.8
Div., Flex., etc.		. .	— 0.82

Lalande 1251, 2.

		h. m. s.	° ′ ″
Oct. 26 (8.0)	R.	0 40 37.21	95 4 11.8
Div., Flex., etc.		. .	— 0.45

B. A. C. 215.

		h. m. s.	° ′ ″
Nov. 25	E.	0 41 1.94	66 22 51.2
Div., Flex., etc.		. .	— 0.55

η^1 Cassiopeæ.

		h. m. s.	° ′ ″
Oct. 10 (3.0)	R.	0 41 54.71	32 48 57.9
11	W.	54.88	58.4
20	E.	54.57	59.0
22	R.	54.79	57.2
Mean . . .		0 41 54.76	32 48 58.12
Div., Flex., etc.		. .	—1 0.36

η^2 Cassiopeæ.

		h. m. s.	° ′ ″
Oct. 10 (8.0)	R.	0 41 54.79	32 49 4.7
11	W.	54.95	2.8
20	E.	54.77	4.6
22	R.	54.98	4.5
Mean . . .		0 41 54.87	32 49 4.15
Div., Flex., etc.		. .	— 1.36

δ Piscium.

		h. m. s.	° ′ ″
Nov. 14	S.	0 42 30.60	83 3 46.9
15	R.	30.54	48.8
Mean . . .		0 42 30.57	83 3 47.85
Div., Flex., etc.		. .	— 0.84

Bonn VI + 5°, 114.

		h. m. s.	° ′ ″
Oct. 15	W.	0 44 59.56	84 41 34.8
Dec. 5 (9.7)	R.	59.52	32.0
Mean . . .		0 44 59.54	84 41 33.40
Div., Flex., etc.		. .	— 0.80

B. A. C. 237.

		h. m. s.	° ′ ″
Nov. 5	E.	0 45 10.65	87 15 40.6
Div., Flex., etc.		. .	— 0.60

Weisse 775.

		h. m. s.	° ′ ″
Nov. 22	S.	0 45 48.09	86 35 14.1
Div., Flex., etc.		. .	— 0.66

B. A. C. 243.

		h. m. s.	° ′ ″
Nov. 5	E.	0 47 11.95	86 33 37.2
14	S.	11.91	34.2
Mean . . .		0 47 11.93	86 33 35.70
Div., Flex., etc.		. .	— 0.66

Anonymous.

		h. m. s.	° ′ ″
Oct. 21	S.	0 47 25.84	59 46 44.0
Div., Flex., etc.		. .	— 0.42

Weisse 806.

		h. m. s.	° ′ ″
Nov. 15 (9.2)	R.	0 47 32.37	88 44 12.2
Div., Flex., etc.		. .	— 0.52

B. A. C. 253.

		h. m. s.	° ′ ″
Feb. 5	W.	0 49 32.22	29 55 44.6
6	E.	32.16	43.2
Nov. 29	E.	32.01	43.6
Dec. 27	E.	32.32	43.8
Mean . . .		0 49 32.18	29 55 43.80
Div., Flex., etc.		. .	— 1.39

B. A. C. 253 (Ref.).

		h. m. s.	° ′ ″
Dec. 27	E.	. .	29 55 40.4
Div., Flex., etc.		. .	+ 1.31

B. A. C. 261.

		h. m. s.	° ′ ″
Oct. 10	R.	0 50 59.87	24 17 32.3
Nov. 5	E.	51 0.21	34.1
22	S.	50 59.94	31.1
Mean . . .		0 51 0.01	24 17 32.50
Div., Flex., etc.		. .	— 1.56

B. A. C. 262.

		h. m. s.	° ′ ″
Oct. 15	W.	0 52 44.57	4 22 57.9
Div., Flex., etc.		. .	— 1.44

D. M. + 60°, 146.

		h. m. s.	° ′ ″
Dec. 1 (8.0)	R.	0 55 16.80	29 3 17.1
Div., Flex., etc.		. .	— 1.40

B. A. C. 282.

		h. m. s.	° ′ ″
Nov. 15	R.	0 56 18.02	29 33 56.9
22	S.	18.15	56.2
Mean . . .		0 56 18.08	29 33 56.55
Div., Flex., etc.		. .	— 1.39

B. A. C. 285.

		h. m. s.	° ′ ″
Nov. 5	E.	0 56 18.23	58 50 8.9
Div., Flex., etc.		. .	— 0.36

O. Arg. N. 1031

		h. m. s.	° ′ ″
Nov. 25	E.	0 56 59.50	29 3 33.9
29	E.	59.23	33.5
Dec. 1 (6.5)	R.	59.25	33.4
Mean . . .		0 56 59.33	29 3 33.60
Div., Flex., etc.		. .	— 1.40

O. Arg. N. 1035.

		h. m. s.	° ′ ″
Nov. 28	W.	0 57 3.35	38 8 9.6
Dec. 5 (5.0)	R.	3.25	10.3
17 (5.5)	R.	3.11	10.0
Mean . . .		0 57 3.24	38 8 9.97
Div., Flex., etc.		. .	— 1.40

O. Arg. N. 1047.

		h. m. s.	° ′ ″
Nov. 28	W.	0 57 24.36	38 10 31.8
Dec. 5 (8.5)	R.	24.29	33.5
17 (9.2)	R.	24.26	33.6
Mean . . .		0 57 24.30	38 10 32.97
Div., Flex., etc.		. .	— 1.40

B. A. C. 302.

		h. m. s.	° ′ ″
Dec. 15	E.	0 58 53.04	27 52 34.6
Div., Flex., etc.		. .	— 1.42

D. M. + 30°, 161.

		h. m. s.	° ′ ″
Oct. 10	R.	0 59 23.59	59 30 18.0
Div., Flex., etc.		. .	— 0.40

Lalande (F.) 179, S. P.

		h. m. s.	° ′ ″
Apr. 22	W.	1 2 50.00	337 8 40.7
30	W.	49.52	42.3
Mean . . .		1 2 49.76	337 8 41.50
Div., Flex., etc.		. .	— 1.27

B. A. C. 335.

		h. m. s.	° ′ ″
Nov. 15	R.	1 3 44.97	26 25 52.1
Div., Flex., etc.		. .	— 1.46

B. A. C. 355.

		h. m. s.	° ′ ″
Nov. 5	E.	1 5 33.46	122 52 56.6
28	W.	33.35	55.3
Mean . . .		1 5 33.40	122 52 55.95
Div., Flex., etc.		. .	— 0.17

Lalande 2142.

		h. m. s.	° ′ ″
Nov. 25 (9.0)	E.	1 6 16.19	58 33 32.8
Dec. 5 (9.2)	R.	16.29	32.5
Mean . . .		1 6 16.24	58 33 32.65
Div., Flex., etc.		. .	— 0.35

Lalande 2144.

		h. m. s.	° ′ ″
Nov. 25 (8.5)	E.	1 6 17.66	58 33 25.6
Dec. 5 (6.8)	R.	17.69	24.7
Mean . . .		1 6 17.68	58 33 25.15
Div., Flex., etc.		. .	— 0.35

B. A. C. 377.

		h. m. s.	° ′ ″
Dec. 17	R.	1 9 38.86	47 41 20.9
Div., Flex., etc.		. .	— 1.13

B. A. C. 454.

		h. m. s.	° ′ ″
Oct. 26 (7.5)	R.	1 25 25.41	79 43 31.3
Nov. 15	R.	25.27	31.5
Mean . . .		1 25 25.34	79 43 31.40
Div., Flex., etc.		. .	— 0.79

B. A. C. 466.

		h. m. s.	° ′ ″
Dec. 17	R.	1 27 36.58	127 28 39.3
Div., Flex., etc.		. .	— 0.19

D. M. + 8°, 246.

		h. m. s.	° ′ ″
Nov. 5	E.	1 27 40.38	81 37 4.4
Dec. 7	E.	40.28	3.0
15 (9.0)	E.	40.28	5.5
Mean . . .		1 27 40.31	81 37 4.30
Div., Flex., etc.		. .	— 0.82

D. M. + 8°, 247.

		h. m. s.	° ′ ″
Nov. 5	E.	1 27 47.79	81 35 40.7
Dec. 7	E.	47.78	40.8
15	E.	47.81	40.6
Mean . . .		1 27 47.79	81 35 40.70
Div., Flex., etc.		. .	— 0.82

Lacaille 459.

		h. m. s.	° ′ ″
Oct. 26 (7.0)	R.	1 29 22.82	125 57 14.6
Nov. 25	E.	22.78	18.6
28	W.	22.84	. .
Dec. 10	W.	22.88	15.8
Mean . . .		1 29 22.83	125 57 16.33
Div., Flex., etc.		. .	— 0.17

B. A. C. 526.

		h. m. s.	° ′ ″
Oct. 15	W.	1 36 14.05	128 44 14.5
22	R.	13.92	13.6
26	R.	13.95	12.2
Mean . . .		1 36 13.97	128 44 13.43
Div., Flex., etc.		. .	— 0.18

B. A. C. 528.

		h. m. s.	° ′ ″
Nov. 25	E.	1 36 48.26	127 25 60.4
28	W.	48.32	59.1
Dec. 7	E.	48.31	58.4
10	W.	48.34	59.7
Mean . . .		1 36 48.31	127 25 59.40
Div., Flex., etc.		. .	— 0.19

B. A. C. 536.

		h. m. s.	° ′ ″
Nov. 5	E.	1 38 32.35	106 33 54.8
16	W.	32.44	52.8
28	W.	32.44	52.4
Mean . . .		1 38 32.41	106 33 53.33
Div., Flex., etc.		. .	— 0.44

WEISSE (2) 855.

		h. m. s.	° ′ ″
Dec. 1 (8.7)	R.	1 38 54.29	56 44 44.2
Div., Flex., etc.		. .	— 0.35

B. A. C. 553.

		h. m. s.	° ′ ″
Dec. 10	W.	1 42 36.14	127 45 14.1
15	E.	36.17	18.4
17	R.	36.08	18.4
Mean . . .		1 42 36.13	127 45 16.97
Div., Flex., etc.		. .	— 0.19

B. A. C. 555.

		h. m. s.	° ′ ″
Nov. 16	W.	1 43 20.57	38 39 17.4
Div., Flex., etc.		. .	— 1.39

B. A. C. 558.

		h. m. s.	° ′ ″
Nov. 25	E.	1 44 10.98	35 26 35.2
Dec. 31	E.	10.93	34.5
Mean . . .		1 44 10.96	35 26 34.85
Div., Flex., etc.		. .	— 1.36

B. A. C. 560.

		h. m. s.	° ′ ″
Oct. 15	W.	1 44 35.66	39 47 48.7
28	W.	. .	48.7
Mean . . .		1 44 35.66	39 47 48.70
Div., Flex., etc.		. .	— 1.37

LALANDE 3401.

		h. m. s.	° ′ ″
Nov. 15	R.	1 45 18.26	72 17 45.8
Dec. 1 (6.8)	R.	18.24	45.7
Mean . . .		1 45 18.25	72 17 45.75
Div., Flex., etc.		. .	— 0.76

B. A. C. 569.

		h. m. s.	° ′ ″
July 27	W.	1 46 17.96	61 0 9.9
Div., Flex., etc.		. .	— 0.50

ANONYMOUS.

		h. m. s.	° ′ ″
Nov. 16	W.	1 46 50.24	44 44 35.9
Div., Flex., etc.		. .	— 1.25

B. A. C. 575.

		h. m. s.	° ′ ″
Dec. 17	R.	1 47 44.51	49 52 57.3
Div., Flex., etc.		. .	— 0.97

GROOMBRIDGE 410, S. P.

		h. m. s.	° ′ ″
May 7	R.	1 51 9.73	344 55 28.0
Div., Flex., etc.		. .	— 1.58

GROOMBRIDGE 409, S. P.

		h. m. s.	° ′ ″
May 7	R.	1 51 12.00	344 53 32.8
Div., Flex., etc.		. .	— 1.58

WEISSE 919.

		h. m. s.	° ′ ″
Nov. 5	E.	1 53 11.50	99 33 43.1
15	R.	. .	41.3
16	W.	11.49	42.3
25	E.	11.36	43.6
Dec. 7 (9.0)	E.	11.47	41.3
Mean . . .		1 53 11.46	99 33 42.32
Div., Flex., etc.		. .	— 0.40

WEISSE 938.

		h. m. s.	° ′ ″
Nov. 25	E.	1 53 58.71	99 43 3.0
Dec. 9	R.	58.66	1.6
17 (9.4)	R.	58.76	1.2
Mean . . .		1 53 58.71	99 43 1.93
Div., Flex., etc.		. .	— 0.41

B. A. C. 620.

		h. m. s.	° ′ ″
Dec. 28	S.	1 55 44.28	25 28 11.5
Div., Flex., etc.		. .	— 1.50

B. A. C. 627.

		h. m. s.	° ′ ″
Dec. 10	W.	1 55 56.06	120 34 27.6
Div., Flex., etc.		. .	— 0.20

LALANDE 3837.

		h. m. s.	° ′ ″
Oct. 26	R.	1 58 23.66	102 25 54.7
Nov. 5	E.	23.61	56.9
15	R.	. .	55.1
Dec. 1 (7.0)	R.	23.66	53.1
Mean . . .		1 58 23.64	102 25 54.95
Div., Flex., etc.		. .	— 0.55

PIAZZI II, 10.

		h. m. s.	° ′ ″
Nov. 25	E.	2 4 55.62	131 25 47.7
Dec. 1	R.	55.57	43.3
5	R.	55.64	48.0
Mean . . .		2 4 55.61	131 25 46.33
Div., Flex., etc.		. .	— 0.08

LALANDE 3987.

		h. m. s.	° ′ ″
Oct. 15	W.	2 6 0.02	22 52 33.6
Div., Flex., etc.		. .	— 1.61

BONN VI + 66°, 193.

		h. m. s.	° ′ ″
Oct. 15	W.	2 6 9.76	22 52 52.0
Div., Flex., etc.		. .	— 1.61

LALANDE 4271.

		h. m. s.	° ′ ″
Oct. 26	R.	2 12 14.80	67 22 56.3
27	W.	14.79	58.6
Dec. 1	R.	14.94	55.1
Mean . . .		2 12 14.84	67 22 56.67
Div., Flex., etc.		. .	— 0.58

B. A. C. 713.

		h. m. s.	° ′ ″
Dec. 5	R.	2 12 17.33	126 32 10.1
7	E.	17.47	5.1
10	W.	17.38	8.1
Mean . . .		2 12 17.39	126 32 7.77
Div., Flex., etc.		. .	— 0.18

LALANDE 4280.

		h. m. s.	° ′ ″
Oct. 15	W.	2 13 31.64	33 18 14.1
Nov. 16	W.	31.73	13.5
27	R.	31.46	14.5
Mean . . .		2 13 31.61	33 18 14.03
Div., Flex., etc.		. .	— 1.36

LALANDE 4309.

		h. m. s.	° ′ ″
Oct. 15	W.	2 14 28.94	33 18 1.8
Nov. 16	W.	29.00	0.6
27	R.	28.67	1.2
Mean . . .		2 14 28.87	33 18 1.20
Div., Flex., etc.		. .	— 1.36

B. A. C. 746.

		h. m. s.	° ′ ″
Oct. 27	W.	2 18 12.30	128 7 3.7
Div., Flex., etc.		. .	— 0.19

ANONYMOUS.

		h. m. s.	° ′ ″
Oct. 22	R.	1 49 45.56	77 11 18.9
Div., Flex., etc.		. .	— 0.84

WEISSE (2) 409.

		h. m. s.	° ′ ″
Nov. 24	W.	2 19 1.23	70 59 2.7
Div., Flex., etc.		. .	— 0.69

ANONYMOUS.

		h. m. s.	° ′ ″
Oct. 22 (12.5)	R.	2 20 34.20	87 20 32.5
Div., Flex., etc.		. .	— 0.59

ANONYMOUS.

		h. m. s.	° ′ ″
Jan. 17 (10.0)	E.	2 21 48.56	59 4 29.1
Div., Flex., etc.		. .	— 0.37

ANONYMOUS.

		h. m. s.	° ′ ″
Jan. 17	E.	2 21 54.58	59 3 38.3
Nov. 5	E.	54.74	35.6
Mean . . .		2 21 54.66	59 3 36.95
Div., Flex., etc.		. .	— 0.36

RÜMKER 631.

		h. m. s.	° ′ ″
Oct. 15	W.	2 22 26.72	67 3 50.3
Div., Flex., etc.		. .	— 0.57

D. M. + 89°, 4.

		h. m. s.	° ′ ″
Nov. 25	E.	2 24 25.29	0 29 5.1
Div., Flex., etc.		. .	— 1.44

B. A. C. 788.

		h. m. s.	° ′ ″
Dec. 10	W.	2 28 9.43	125 10 25.9
Div., Flex., etc.		. .	— 0.16

D. M. + 89°, 3.

		h. m. s.	° ′ ″
Nov. 25	E.	2 30 15.28	0 23 26.3
Div., Flex., etc.		. .	— 1.44

B. A. C. 812.

		h. m. s.	° ′ ″
Jan. 17	E.	2 33 10.96	120 42 27.6
Oct. 15	W.	10.97	25.9
Dec. 5	R.	10.85	25.3
Mean . . .		2 33 10.93	120 42 26.27
Div., Flex., etc.		. .	— 0.20

B. A. C. 818.

		h. m. s.	° ′ ″
Dec. 17	R.	2 33 36.91	128 30 15.3
Div., Flex., etc.		. .	— 0.18

μ ARIETIS.

		h. m. s.	° ′ ″
Feb. 5	W.	2 35 39.44	70 29 48.3
Div., Flex., etc.		. .	— 0.66

o ARIETIS.

		h. m. s.	° ′ ″
Dec. 17	R.	2 37 59.52	75 11 35.1
Div., Flex., etc.		. .	— 0.80

B. A. C. 853.

		h. m. s.	° ′ ″
Nov. 25	E.	2 38 43.19	131 2 8.3
Dec. 5 (6.5)	R.	43.08	7.3
Mean . . .		2 38 43.14	131 2 7.80
Div., Flex., etc.		. .	— 0.09

40 ARIETIS.

		h. m. s.	° ′ ″
Feb. 5	W.	2 41 51.82	72 12 48.4
Div., Flex., etc.		. .	— 0.75

O. ARG. N. 3195.

		h. m. s.	° ′ ″
Oct. 27	W.	2 41 58.72	34 35 46.4
Div., Flex., etc.		. .	— 1.35

B. A. C. 863.

		h. m. s.	° ′ ″
Oct. 27	W.	2 42 1.53	34 36 1.5
Div., Flex., etc.		. .	— 1.35

B. A. C. 873.

		h. m. s.	° ′ ″
Nov. 5	E.	2 42 44.26	126 2 53.6
20	S.	44.21	50.4
Mean . . .		2 42 44.24	126 2 52.0
Div., Flex., etc.		. .	— 0.17

B. A. C. 872.

		h. m. s.	° ′ ″
Mar. 25	W.	58.86	63 13 53.7
Dec. 10	W.	. .	53.6
15	E.	. .	53.3
Mean . . .		58.86	63 13 53.53
Div., Flex., etc.		. .	— 0.56

B. A. C. 872 (Ref.).

		h. m. s.	° ′ ″
Dec. 10	W.	. .	63 13 51.2
15	E.	. .	51.9
Mean . . .		. .	63 13 51.55
Div., Flex., etc.		. .	+ 0.49

O. ARG. N. 3230.

		h. m. s.	° ′ ″
Jan. 17	E.	2 43 43.94	43 39 3.6
Nov. 24	W.	43.97	3.9
27	R.	44.02	2.7
Mean . . .		2 43 43.98	43 39 3.40
Div., Flex., etc.		. .	— 1.26

B. A. C. 879.

		h. m. s.	° ′ ″
Nov. 25	E.	2 44 6.72	122 54 26.9
Dec. 5	R.	6.66	22.5
Mean . . .		2 44 6.69	122 54 24.70
Div., Flex., etc.		. .	— 0.17

B. A. C. 886.

		h. m. s.	° ′ ″
Dec. 17	R.	2 45 26.03	126 20 13.5
31	E.	26.18	16.3
Mean . . .		2 45 26.10	126 20 14.90
Div., Flex., etc.		. .	— 0.18

LALANDE 5284.

		h. m. s.	° ′ ″
Dec. 2	W.	2 45 36.50	54 50 51.3
9 (8.0)	R.	36.39	49.1
Mean . . .		2 45 36.44	54 50 50.20
Div., Flex., etc.		. .	— 0.52

O. ARG. N. 3304.

		h. m. s.	° ′ ″
Jan. 17	E.	2 50 20.74	15 33 56.6
Dec. 10	W.	20.78	53.4
Mean . . .		2 50 20.76	15 53 55.00
Div., Flex., etc.		. .	— 1.53

O. ARG. N. 3304, S. P.

		h. m. s.	° ′ ″
May 25	E.	2 50 20.76	344 26 10.3
27 (8.2)	R.	20.68	8.4
Mean . . .		2 50 20.72	344 26 9.35
Div., Flex., etc.		. .	— 1.57

O. ARG. N. 3339, S. P.

		h. m. s.	° ′ ″
June 13	E.	2 52 27.94	340 11 7.9
Div., Flex., etc..		. .	— 1.38

ANONYMOUS.

		h. m. s.	° ′ ″
Nov. 27	R.	2 51 29.67	82 42 3.1
Div., Flex., etc.		. .	— 0.84

B. A. C. 930.

		h. m. s.	° ′ ″
Dec. 7	E.	2 52 54.44	128 40 10.5
15	E.	54.39	8.0
Mean . . .		2 52 54.42	128 40 9.25
Div., Flex., etc.		. .	— 0.18

ANONYMOUS.

		h. m. s.	° ′ ″
Nov. 25	E.	2 52 58.10	82 45 47.1
Div., Flex., etc.		. .	— 0.84

O. ARG. N. 3411.

		h. m. s.	° ′ ″
Oct. 27	W.	2 57 22.43	26 24 26.1
Nov. 24	W.	22.52	24.2
Mean . . .		2 57 22.48	26 24 25.15
Div., Flex., etc.		. .	— 1.46

B. A. C. 953.

		h. m. s.	° ′ ″
Mar. 25	W.	2 57 33.24	51 37 21.0
Div., Flex., etc.		. .	— 0.77

B. A. C. 955.

		h. m. s.	° ′ ″
Jan. 17	E.	2 59 4.30	16 3 39.6
Feb. 6	E.	4.12	40.0
Mean . . .		2 59 4.21	16 3 39.80
Div., Flex., etc.		. .	— 1.53

B. A. C. 962.

		h. m. s.	° ′ ″
Mar. 25	W.	3 0 . .	40 50 35.7
Div., Flex., etc.		. .	— 1.32

54 ARIETIS.

		h. m. s.	° ′ ″
Feb. 5	W.	3 1 36.44	71 39 47.2
Div., Flex., etc.		. .	— 0.73

B. A. C. 984.

		h. m. s.	° ′ ″
Nov. 25	E.	3 4 0.08	125 53 7.7
Div., Flex., etc.		. .	— 0.17

δ ARIETIS.

		h. m. s.	° ′ ″
Feb. 5	W.	3 4 49.48	70 43 28.8
Div., Flex., etc.		. .	— 0.67

B. A. C. 1003.

		h. m. s.	° ′ ″
Dec. 10	W.	3 8 21.71	126 23 24.6
Div., Flex., etc.		. .	— 0.18

B. A. C. 1005.

		h. m. s.	° ′ ″
Jan. 17	E.	3 8 40.37	120 14 57.9
Dec. 7	E.	40.41	58.9
31	E.	40.23	59.8
Mean . . .		3 8 40.34	120 14 58.87
Div., Flex., etc.		. .	— 0.21

B. A. C. 1021.

		h. m. s.	° ′ ″
Dec. 1	R.	3 11 52.98	126 7 46.7
5	R.	52.94	46.5
7	E.	53.16	49.5
17	R.	52.97	48.8
Mean . . .		3 11 53.01	120 7 47.88
Div., Flex., etc.		. .	— 0.17

B. A. C. 1037.

		h. m. s.	° ′ ″
Jan. 17	E.	3 14 13.64	112 11 32.4
Feb. 6	E.	13.51	30.9
Mean . . .		3 14 13.58	112 11 31.65
Div., Flex., etc.		. .	— 0.50

WEISSE (2) 320.

		h. m. s.	° ′ ″
Oct. 15	W.	3 17 3.49	56 53 16.0
27	W.	3.37	17.8
Dec. 5	R.	3.39	16.1
Mean . . .		3 17 3.42	56 53 16.63
Div., Flex., etc.		. .	— 0.34

LALANDE 6268.

		h. m. s.	° ′ ″
Feb. 6	E.	3 17 37.32	77 47 38.3
Nov. 24	W.	37.37	39.0
Dec. 1	R.	37.32	40.5
Mean . . .		3 17 37.34	77 47 39.27
Div., Flex., etc.		. .	— 0.83

B. A. C. 1060.

		h. m. s.	° ′ ″
Jan. 17	E.	3 18 . .	123 7 50.7
Dec. 15	E.	58.17	51.3
17	R.	58.05	49.9
31	E.	57.95	50.3
Mean . . .		3 18 58.06	123 7 50.55
Div., Flex., etc.		. .	— 0.17

BONN VI + 33°, 656.

		h. m. s.	° ′ ″
Oct. 15	W.	3 20 52.51	56 36 23.7
27	W.	52.41	23.8
Dec. 20	S.	52.36	22.4
Mean . . .		3 20 52.43	56 36 23.30
Div., Flex., etc.		. .	— 0.36

B. A. C. 1082.

		h. m. s.	° ′ ″
Dec. 15	E.	3 22 56.89	126 5 46.7
17	R.	56.77	46.7
31	E.	56.84	45.3
Mean . . .		3 22 56.83	126 5 46.23
Div., Flex., etc.		. .	— 0.17

WEISSE (2) 466.

		h. m. s.	° ′ ″
Jan. 17	E.	3 24 9.06	62 50 10.6
Feb. 6	E.	8.92	10.1
Oct. 15	W.	9.01	10.3
Mean . . .		3 24 9.00	62 50 10.33
Div., Flex., etc.		. .	— 0.57

WEISSE (2) 467.

		h. m. s.	° ′ ″
Jan. 17	E.	3 24 9.86	62 50 9.5
Feb. 6	E.	9.80	10.1
Oct. 15	W.	10.00	10.2
Mean . . .		3 24 9.89	62 50 9.93
Div., Flex., etc.		. .	— 0.57

O. ARG. N. 3875.

		h. m. s.	° ′ ″
Dec. 20	S.	3 24 35.76	35 25 51.8
Div., Flex., etc.		. .	— 1.36

LALANDE 6686.

		h. m. s.	° ′ ″
Oct. 15	W.	3 32 5.71	69 28 26.9
Div., Flex., etc.		. .	— 0.62

B. A. C. 1121.

		h. m. s.	° ′ ″
Dec. 5	R.	3 32 17.62	120 13 18.7
17	R.	17.61	20.3
31	E.	17.60	18.9
Mean . . .		3 32 17.61	120 13 19.30
Div., Flex., etc.		. .	— 0.21

B. A. C. 1117.

		h. m. s.	° ′ ″
Dec. 1	R.	3 32 54.09	30 24 58.7
Div., Flex., etc.		. .	— 1.38

O. ARG. N. 4050.

		h. m. s.	° ′ ″
Dec. 1	R.	3 36 52.48	19 29 59.5
5	R.	52.71	59.9
17	R.	52.62	60.8
Mean . . .		3 36 52.60	19 30 0.07
Div., Flex., etc.		. .	— 1.58

B. A. C. 1143.

		h. m. s.	° ′ ″
Feb. 6	E.	3 37 32.76	69 26 55.4
Div., Flex., etc.		. .	— 0.62

B. A. C. 1170.

		h. m. s.	° ′ ″
Feb. 6	E.	3 41 18.15	66 56 45.4
Div., Flex., etc.		. .	— 0.57

PIAZZI III, 182.

		h. m. s.	° ′ ″
Dec. 1 (6.8)	R.	3 44 12.23	127 59 12.7
5 (6.5)	R.	12.16	11.6
17	R.	12.20	13.6
Mean . . .		3 44 12.20	127 59 12.63
Div., Flex., etc.		. .	— 0.19

PIAZZI III, 183.

		h. m. s.	° ′ ″
Dec. 1 (5.5)	R.	3 44 12.28	127 59 6.2
5 (5.0)	R.	12.42	4.3
17	R.	12.46	7.0
Mean . . .		3 44 12.39	127 59 5.83
Div., Flex., etc.		. .	— 0.19

LALANDE (F.) 606, S. P.

		h. m. s.	° ′ ″
June 18	E.	3 45 59.85	345 49 51.2
July 5	S.	59.97	49.1
Mean . . .		3 45 59.91	345 49 50.15
Div., Flex., etc.		. .	— 1.61

O. ARG. N. 4351.

		h. m. s.	° ′ ″
Dec. 1	R.	3 54 7.53	21 39 5.5
5	R.	7.34	6.4
Mean . . .		3 54 7.44	21 39 5.95
Div., Flex., etc.		. .	— 1.62

B. A. C. 1244.

		h. m. s.	° ′ ″
Jan. 28	W.	3 55 16.59	80 20 13.6
Dec. 17	R.	16.66	15.7
Mean . . .		3 55 16.62	80 20 14.65
Div., Flex., etc.		. .	— 0.79

36 TAURI.

		h. m. s.	° ′ ″
Feb. 6	E.	3 57 14.67	66 13 23.4
Div., Flex., etc.		. .	— 0.55

B. A. C. 1254.

		h. m. s.	° ′ ″
Jan. 17	E.	3 57 . .	39 58 26.2
Dec. 31	E.	43.36	25.1
Mean . . .		3 57 43.36	39 58 25.65
Div., Flex., etc.		. .	— 1.35

B. A. C. 1254 (Ref.).

		h. m. s.	° ′ ″
Jan. 17	E.	. .	39 58 23.9
Div., Flex., etc.		. .	+ 1.01

WEISSE 1095.

		h. m. s.	° ′ ″
Oct. 15	W.	3 57 56.59	87 29 51.5
Div., Flex., etc.		. .	— 0.58

49 PERSEI.

		h. m. s.	° ′ ″
Nov. 27	R.	4 0 23.57	52 35 13.6
Div., Flex., etc.		. .	— 0.68

B. A. C. 1247.

		h. m. s.	° ′ ″
Dec. 17	R.	4 0 46.08	6 29 15.4
Div., Flex., etc.		. .	— 1.38

B. A. C. 1289.

		h. m. s.	° ′ ″
Feb. 6	E.	4 5 47.92	67 53 38.7
Div., Flex., etc.		. .	— 0.59

WEISSE (2) 54.

		h. m. s.	° ′ ″
Jan. 28	W.	4 6 4.97	52 20 22.5
Feb. 12	R.	5.06	22.6
Oct. 15	W.	4.96	21.5
Mean . . .		4 6 5.00	52 20 22.20
Div., Flex., etc.		. .	— 0.70

B. A. C. 1287.

		h. m. s.	° ′ ″
Nov. 24	W.	4 6 . .	41 53 43.0
Dec. 15	E.	. .	43.1
Mean . . .		. .	41 53 43.05
Div., Flex., etc.		. .	— 1.30

B. A. C. 1287 (Ref.).

		h. m. s.	° ′ ″
Nov. 24	W.	. .	41 53 41.7
Dec. 15	E.	. .	41.1
Mean . . .		. .	41 53 41.40
Div., Flex., etc.		. .	+ 0.88

B. A. C. 1310.

		h. m. s.	° ′ ″
Dec. 5	R.	4 9 30.94	130 39 38.6
Div., Flex., etc.		. .	— 0.10

ANONYMOUS.

		h. m. s.	° ′ ″
Dec. 23 (12.0)	E.	4 10 5.43	119 15 27.2
Div., Flex., etc.		. .	— 0.23

IV, 1[1].

		h. m. s.	° ′ ″
Dec. 10	W.	4 10 26.56	119 13 6.3
23	E.	26.63	9.6
Mean . . .		4 10 26.60	119 13 7.95
Div., Flex., etc.		. .	— 0.23

IV, 1[2].

		h. m. s.	° ′ ″
Dec. 10	W.	4 10 27.81	119 14 37.7
23	E.	27.82	39.6
Mean . . .		4 10 27.82	119 14 38.65
Div., Flex., etc.		. .	— 0.23

56 Tauri.

		h. m. s.	° ′ ″
Jan. 28	W.	4 12 33.97	68 30 55.1
Div., Flex., etc.		. .	— 0.61

Weisse (2) 248.

		h. m. s.	° ′ ″
Jan. 22	S.	4 13 . .	71 32 40.5
Oct. 27	W.	30.27	40.9
Mean . . .		4 13 30.27	71 32 40.70
Div., Flex., etc.		. .	— 0.72

O. Arg. N. 4808.

		h. m. s.	° ′ ″
Jan. 28	W.	4 18 48.24	41 58 27.2
Oct. 27	W.	48.15	29.5
Mean . . .		4 18 48.20	41 58 28.35
Div., Flex., etc.		. .	— 1.30

B. A. C. 1373.

		h. m. s.	° ′ ″
Jan. 22	S.	4 20 . .	68 38 51.5
Div., Flex., etc.		. .	— 0.61

Weisse (2) 421.

		h. m. s.	° ′ ″
Jan. 17	E.	4 21 21.29	59 54 17.3
Dec. 23	E.	21.22	17.3
Mean . . .		4 21 21.26	59 54 17.30
Div., Flex., etc.		. .	— 0.42

Weisse (2) 422.

		h. m. s.	° ′ ″
Jan. 17	E.	4 21 21.90	59 54 6.8
Dec. 23	E.	22.06	6.3
Mean . . .		4 21 21.98	59 54 6.55
Div., Flex., etc.		. .	— 0.42

O. Arg. N. 4918.

		h. m. s.	° ′ ″
Jan. 28	W.	4 25 52.10	40 38 31.0
Div., Flex., etc.		. .	— 1.33

Weisse 548.

		h. m. s.	° ′ ″
Jan. 17	E.	4 27 32.17	86 48 14.9
22	S.	. .	13.7
Dec. 10	W.	32.07	11.5
Mean . . .		4 27 32.12	86 48 13.37
Div., Flex., etc.		. .	— 0.64

Lalande 8612.

		h. m. s.	° ′ ″
Oct. 27	W.	4 27 48.57	84 40 55.9
Div., Flex., etc.		. .	— 0.80

Weisse 685.

		h. m. s.	° ′ ″
Oct. 27	W.	4 32 58.61	88 6 26.1
Div., Flex., etc.		. .	— 0.53

D. M. + 17°, 765.

		h. m. s.	° ′ ″
Jan. 17	E.	4 33 31.06	72 4 41.3
Div., Flex., etc.		. .	— 0.75

D. M. + 17°, 767.

		h. m. s.	° ′ ″
Jan. 17	E.	4 34 6.77	72 7 32.5
Div., Flex., etc.		. .	— 0.75

B. A. C. 1460.

		h. m. s.	° ′ ″
Dec. 23	E.	4 37 50.21	79 4 38.0
Div., Flex., etc.		. .	— 0.80

D. M. + 1°, 808.

		h. m. s.	° ′ ″
Dec. 10	W.	4 37 52.93	88 8.9 . .

D. M. + 1°, 809.

		h. m. s.	° ′ ″
Dec. 10	W.	4 37 56.30	88 8.6 . .

B. A. C. 1488.

		h. m. s.	° ′ ″
Dec. 23	E.	4 43 11.15	120 14 7.9
Div., Flex., etc.		. .	— 0.21

B. A. C. 1497.

		h. m. s.	° ′ ″
Dec. 17	R.	4 45 21.11	62 18 14.6
Div., Flex., etc.		. .	— 0.56

B. A. C. 1514.

		h. m. s.	° ′ ″
Dec. 23	E.	4 48 3.19	87 45 20.3
Div., Flex., etc.		. .	— 0.55

Lalande 9270.

		h. m. s.	° ′ ″
Dec. 10	W.	4 49 59.95	88 8 49.4
17 (7.5)	R.	50 0.04	51.6
Mean . . .		4 50 0.00	88 8 50.50
Div., Flex., etc.		. .	— 0.53

Weisse 1067.

		h. m. s.	° ′ ″
Jan. 28	W.	4 50 0.23	87 0 53.0
Oct. 27	W.	0.42	52.6
Mean . . .		4 50 0.32	87 0 52.80
Div., Flex., etc.		. .	— 0.62

Lalande 9258.

		h. m. s.	° ′ ″
Dec. 23 (8.5)	E.	4 52 45.26	29 45 15.6
Div., Flex., etc.		. .	— 1.39

B. A. C. 1536.

		h. m. s.	° ′ ″
Jan. 22	S.	4 52 . .	29 44 4.3
Dec. 23	E.	50.29	3.6
Mean . . .		4 52 50.29	29 44 3.95
Div., Flex., etc.		. .	— 1.39

B. A. C. 1536 (Ref.).

		h. m. s.	° ′ ″
Jan. 22	S.	. .	29 44 1.3
Div., Flex., etc.		. .	+ 1.32

Lalande 9400.

		h. m. s.	° ′ ″
Feb. 19	S.	4 53 54.09	86 53 33.8
Div., Flex., etc.		. .	— 0.63

Weisse 1223.

		h. m. s.	° ′ ″
Jan. 17	E.	4 56 15.40	88 7 32.8
Oct. 27	W.	15.37	33.0
Mean . . .		4 56 15.38	88 7 32.90
Div., Flex., etc.		. .	— 0.53

Lalande 9484.

		h. m. s.	° ′ ″
Dec. 17	R.	4 57 11.65	62 28 19.6
Div., Flex., etc.		. .	— 0.56

B. A. C. 1574.

		h. m. s.	° ′ ″
Jan. 17	E.	5 0 11.43	125 52 19.9
Dec. 23	E.	11.22	20.2
Mean . . .		5 0 11.32	125 52 20.05
Div., Flex., etc.		. .	— 0.17

B. A. C. 1588.

		h. m. s.	° ′ ″
Jan. 22	S.	5 2 . .	95 14 30.6
28	W.	0.02	29.8
Mean . . .		5 2 0.02	95 14 30.20
Div., Flex., etc.		. .	— 0.44

Weisse (2) 1421[1].

		h. m. s.	° ′ ″
Dec. 10	W.	5 2 16.83	62 7 19.8
17	R.	16.79	20.6
Mean . . .		5 2 16.81	62 7 20.20
Div., Flex., etc.		. .	— 0.55

Weisse (2) 1421[2].

		h. m. s.	° ′ ″
Dec. 10	W.	5 2 17.25	62 7 9.2
17	R.	17.27	10.0
Mean . . .		5 2 17.26	62 7 9.60
Div., Flex., etc.		. .	— 0.55

B. A. C. 1585.

		h. m. s.	° ′ ″
Oct. 27	W.	5 3 33.14	16 52 20.8
Div., Flex., etc.		. .	— 1.53

B. A. C. 1599.

		h. m. s.	° ′ ″
Jan. 17	E.	5 4 0.76	125 52 23.0
Dec. 23	E.	0.60	23.0
Mean . . .		5 4 0.68	125 52 23.00
Div., Flex., etc.		. .	— 0.16

B. A. C. 1618.

		h. m. s.	° ′ ″
Dec. 10	W.	5 7 50.04	98 17 22.2
Div., Flex., etc.		. .	— 0.34

Bonn VI + 62°, 742.

		h. m. s.	° ′ ″
Jan. 22	S.	5 9 . .	27 28 36.3
Div., Flex., etc.		. .	— 1.43

B. A. C. 1630.

		h. m. s.	° ′ ″
Jan. 17	E.	5 9 33.16	125 57 46.6
Dec. 23	E.	33.07	46.4
Mean . . .		5 9 33.12	125 57 46.50
Div., Flex., etc.		. .	— 0.17

Weisse (2) 245.

		h. m. s.	° ′ ″
Oct. 27	W.	5 10 53.06	56 36 20.7
Div., Flex., etc.		. .	— 0.36

WEISSE (2) 247.

		h. m. s.	° ′ ″
Oct. 27	W.	5 10 53.35	56 36 5.4
Div., Flex., etc.		. .	— 0.36

WEISSE (2) 266.

		h. m. s.	° ′ ″
Dec. 17 (6.2)	R.	5 11 53.34	49 2 19.6
23	E.	53.45	17.8
Mean . . .		5 11 53.40	49 2 18.70
Div., Flex., etc.		. .	— 1.03

B. A. C. 1661.

		h. m. s.	° ′ ″
Jan. 28	W.	5 15 50.11	86 32 47.4
Dec. 23	E.	50.19	46.2
Mean . . .		5 15 50.15	86 32 46.80
Div., Flex., etc.		. .	— 0.66

WEISSE 342.

		h. m. s.	° ′ ″
Jan. 28	W.	5 16 34.65	86 34 20.4
Dec. 23	E.	34.70	17.6
Mean . . .		5 16 34.68	86 34 19.00
Div., Flex., etc.		. .	— 0.66

WEISSE 343.

		h. m. s.	° ′ ″
Jan. 28	W.	5 16 35.78	86 33 . .
Dec. 23	E.	35.73	49.1
Mean . . .		5 16 35.76	86 33 49.10
Div., Flex., etc.		. .	— 0.66

B. A. C. 1718.

		h. m. s.	° ′ ″
Jan. 17	E.	5 23 25.19	122 30 57.9
Div., Flex., etc.		. .	— 0.17

B. A. C. 1662.

		h. m. s.	° ′ ″
Dec. 10	W.	5 24 0.24	4 52 6.9
Div., Flex., etc.		. .	— 1.44

WEISSE 619.

		h. m. s.	° ′ ″
Jan. 22 (8.6)	S.	5 26 . .	91 40 51.8
Div., Flex., etc.		. .	— 0.47

B. A. C. 1756.

		h. m. s.	° ′ ″
Jan. 27	R.	5 28 51.10	128 35 48.6
Div., Flex., etc.		. .	— 0.18

B. A. C. 1752.

		h. m. s.	° ′ ″
Jan. 17	E.	5 29 13.84	96 4 59.3
Div., Flex., etc.		. .	— 0.40

ι^1 ORIONIS.

		h. m. s.	° ′ ″
Jan. 17	E.	5 29 36.86	95 59 24.1
Div., Flex., etc.		. .	— 0.40

B. A. C. 1767.

		h. m. s.	° ′ ″
Mar. 7	S.	5 30 . .	68 55 54.1
Div., Flex., etc.		. .	— 0.62

B. A. C. 1767 (Ref.).

		h. m. s.	° ′ ″
Mar. 7	S.	5 30 . .	68 55 54.7
Div., Flex., etc.		. .	+ 0.45

B. A. C. 1814.

		h. m. s.	° ′ ″
Jan. 27	R.	5 37 59.34	124 43 37.2
Mar. 2	E.	59.31	36.9
Mean . . .		5 37 59.32	124 43 37.05
Div., Flex., etc.		. .	— 0.16

B. A. C. 1826.

		h. m. s.	° ′ ″
Dec. 17	R.	5 40 20.32	80 31 23.8
Div., Flex., etc.		. .	— 0.79

B. A. C. 1847.

		h. m. s.	° ′ ″
Jan. 27	R.	5 42 32.89	126 16 31.8
Div., Flex., etc.		. .	— 0.18

υ AURIGÆ.

		h. m. s.	° ′ ″
Mar. 2	E.	5 42 55.43	52 43 50.8
Div., Flex., etc.		. .	— 0.67

LALANDE 11061.

		h. m. s.	° ′ ″
Jan. 22	S.	5 43.9 . .	85 36 47.2
Div., Flex., etc.		. .	— 0.74

B. A. C. 1849.

		h. m. s.	° ′ ″
Feb. 16	R.	5 44 . .	30 8 30.3
19	S.	. .	29.8
Mar. 7	S.	. .	30.6
Dec. 10	W.	. .	30.2
Mean . . .		. .	30 8 30.22
Div., Flex., etc.		. .	— 1.39

B. A. C. 1849 (Ref.).

		h. m. s.	° ′ ″
Feb. 16	R.	. .	30 8 25.0
19	S.	. .	25.9
Mar. 7	S.	. .	25.8
Dec. 10	W.	. .	26.4
Mean . . .		. .	30 8 25.78
Div., Flex., etc.		. .	+ 1.30

D. M. + 31°, 1126.

		h. m. s.	° ′ ″
Feb. 17	W.	5 44 46.78	58 14 46.2
Div., Flex., etc.		. .	— 0.34

B. A. C. 1865.

		h. m. s.	° ′ ″
Jan. 17	E.	5 45 22.53	120 39 24.3
Div., Flex., etc.		. .	0.20

ANONYMOUS.

		h. m. s.	° ′ ″
Dec. 17	R.	5 45 59.11	64 43 6.0
Div., Flex., etc.		. .	— 0.52

B. A. C. 1878.

		h. m. s.	° ′ ″
Mar. 2	E.	5 46 46.10	125 48 51.2
Div., Flex., etc.		. .	— 0.17

B. A. C. 1889.

		h. m. s.	° ′ ″
Jan. 27	R.	5 48 29.89	127 39 27.2
Div., Flex., etc.		. .	— 0.19

B. A. C. 1904.

		h. m. s.	° ′ ″
Mar. 2	E.	5 51 0.26	129 58 45.2
Div., Flex., etc.		. .	— 0.13

B. A. C. 1914.

		h. m. s.	° ′ ″
Feb. 17	W.	5 53 33.79	40 5 56.9
Div., Flex., etc.		. .	— 1.35

D. M. + 14°, 1110.

		h. m. s.	° ′ ″
Dec. 17	R.	5 53 4.19	75 9 53.3
Div., Flex., etc.		. .	0.80

LALANDE 11344.

		h. m. s.	° ′ ″
Jan. 17	E.	5 54 7.29	61 47 46.8
27 (8.9)	R.	7.39	46.2
Feb. 16 (9.2)	R.	7.27	47.9
Mean . . .		5 54 7.32	61 47 46.97
Div., Flex., etc.		. .	— 0.54

LALANDE 11380.

		h. m. s.	° ′ ″
Jan. 17	E.	5 55 4.20	61 47 47.4
27 (8.7)	R.	4.30	48.5
Feb. 16 (8.8)	R.	4.14	49.4
Mean . . .		5 55 4.21	61 47 48.43
Div., Flex., etc.		. .	— 0.54

χ^3 ORIONIS.

		h. m. s.	° ′ ″
Mar. 10	E.	5 56 24.65	70 18 34.1
Div., Flex., etc.		. .	— 0.65

χ^4 ORIONIS.

		h. m. s.	° ′ ″
Jan. 22	S.	5 56 . .	69 51 38.0
Feb. 19	S.	. .	38.2
Mean . . .		. .	69 51 38.10
Div., Flex., etc.		. .	— 0.63

χ^4 ORIONIS (Ref.).

		h. m. s.	° ′ ″
Jan. 22	S.	. .	69 51 37.5
Feb. 19	S.	. .	38.2
Mean . . .		. .	69 51 37.85
Div., Flex., etc.		. .	+ 0.45

D. M. + 17°, 1115.

		h. m. s.	° ′ ″
Mar. 2	E.	5 58 11.12	72 4 6.3
Div., Flex., etc.		. .	0.75

PIAZZI V, 333.

		h. m. s.	° ′ ″
Mar. 10	E.	6 2 29.53	41 15 53.9
Div., Flex., etc,		. .	— 1.31

PIAZZI V, 334.

		h. m. s.	° ′ ″
Mar. 10	E.	6 2 29.51	41 16 1.5
Div., Flex., etc.		. .	— 1.31

PIAZZI VI, 6.

		h. m. s.	° ′ ″
Jan. 27	R.	6 3 0.51	132 17 3.6
Div., Flex., etc.		. .	— 0.06

PIAZZI VI, 12.

		h. m. s.	° ′ ″
Mar. 2	E.	6 4 11.28	132 8 10.8
Div., Flex., etc.		. .	— 0.07

PIAZZI VI, 34.

		h. m. s.	° ′ ″
Mar. 11	S.	6 7 14.74	135 15 20.8
Div., Flex., etc.		. .	— 0.01

ANONYMOUS, S. P.

		h. m. s.	° ′ ″
June 29 (8.7)	W.	6 13 41.50	336 21 51.3
Div., Flex., etc.		. .	— 1.24

B. A. C. 2039.

		h. m. s.	° ′ ″
Mar. 7 (8.2)	S.	6 14 14.81	68 44 55.2
Div., Flex., etc.		. .	— 0.61

VI, 2[1].

		h. m. s.	° ′ ″
Jan. 27 (9.2)	R.	6 19 39.32	117 57 43.7
Mar. 2 (9.0)	E.	39.14	43.4
Mean . . .		6 19 39.23	117 57 43.55
Div., Flex., etc.		. .	— 0.26

VI, 2[2].

		h. m. s.	° ′ ″
Jan. 27 (8.0)	R.	6 19 39.84	117 57 38.6
Mar. 2 (7.5)	E.	39.84	39.3
Mean . . .		6 19 39.84	117 57 38.95
Div., Flex., etc.		. .	— 0.26

B. A. C. 2089.

		h. m. s.	° ′ ″
Mar. 5	W.	6 20 52.61	130 13 5.4
11	S.	53.04	5.0
Mean . . .		6 20 52.82	130 13 5.20
Div., Flex., etc.		. .	— 0.12

B. A. C. 2069.

		h. m. s.	° ′ ″
Feb. 16	R.	6 21 58.87	11 54 54.3
17	W.	58.95	53.5
21	W.	59.12	51.8
Mean . . .		6 21 58.98	11 54 53.20
Div., Flex., etc.		. .	— 1.59

O. ARG. S. 5144.

		h. m. s.	° ′ ″
Mar. 10	E.	6 22 53.34	115 45 59.2
Div., Flex., etc.		. .	— 0.34

D. M. + 72°, 325, S. P.

		h. m. s.	° ′ ″
July 2 (9.2)	R.	6 24 54.98	342 35 31.0
Div., Flex., etc.		. .	— 1.52

LALANDE 12494.

		h. m. s.	° ′ ″
Feb. 19	S.	6 25 10.10	78 22 29.0
Mar. 14	R.	10.19	27.9
Mean . . .		6 25 10.14	78 22 28.45
Div., Flex., etc.		. .	— 0.82

D. M. + 35°, 1443.

		h. m. s.	° ′ ″
Feb. 5 (7.0)	W.	6 25 41.83	54 28 48.2
Div., Flex., etc.		. .	— 0.54

O. ARG. N. 6978.

		h. m. s.	° ′ ″
Mar. 10	E.	6 26 28.02	18 9 19.3
Div., Flex., etc.		. .	— 1.55

O. ARG. N. 6979.

		h. m. s.	° ′ ″
Mar. 10	E.	6 26 30.55	18 12 8.6
Div., Flex., etc.		. .	— 1.55

B. A. C. 2129.

		h. m. s.	° ′ ″
Jan. 17	E.	6 26 . .	75 45 16.8
Div., Flex., etc.		. .	— 0.81

B. A. C. 2129 (Ref.).

		h. m. s.	° ′ ″
Jan. 17	E.	. .	75 45 17.1
Div., Flex., etc.		. .	+ 0.53

B. A. C. 2190.

		h. m. s.	° ′ ″
Mar. 2	E.	6 34 36.32	127 53 22.8
Div., Flex., etc.		. .	— 0.19

26 GEMINORUM.

		h. m. s.	° ′ ″
Feb. 16	R.	6 35 28.62	72 14 25.3
Div., Flex., etc.		. .	— 0.75

13 LYNCIS.

		h. m. s.	° ′ ″
Feb. 17	W.	6 36 40.79	32 42 36.5
Div., Flex., etc.		. .	— 1.36

D. M. + 80°, 221, S. P.

		h. m. s.	° ′ ″
Aug. 25	E.	6 37 48.17	350 53 25.6
Div., Flex., etc.		. .	— 1.65

D. M. + 80°, 222, S. P.

		h. m. s.	° ′ ″
Aug. 25	E.	6 38 13.34	350 50 59.0
Div., Flex., etc.		. .	— 1.65

STONE 3158.

		h. m. s.	° ′ ″
Feb. 19	S.	6 38 14.05	128 17.0 . .

STONE 3159.

		h. m. s.	° ′ ″
Feb. 19	S.	6 38 14.81	128 17.0 . .

D. M. + 72°, 337, S. P.

		h. m. s.	° ′ ″
July 2 (9.5)	R.	6 40 12.15	342 34 53.1
Div., Flex., etc.		. .	— 1.52

WEISSE (2) 1227,

		h. m. s.	° ′ ″
Mar. 15	E.	6 41 55.98	57 15 37.3
Div., Flex., etc.		. .	— 0.33

O. ARG. N. 7287, S. P.

		h. m. s.	° ′ ″
July 3	W.	6 45 23.57	344 6 39.5
Div., Flex., etc.		. .	— 1.56

B. A. C. 2246.

		h. m. s.	° ′ ″
Feb. 19	S.	6 45 23.89	122 22 20.6
Div., Flex., etc.		. .	— 0.18

B. A. C. 2288.

		h. m. s.	° ′ ″
Feb. 19	S.	6 53 2.15	125 20 58.9
Mar. 2	E.	. .	21 0.3
Mean . . .		6 53 2.15	125 20 59.60
Div., Flex., etc.		. .	— 0.16

STONE 3320.

		h. m. s.	° ′ ″
Feb. 19	S.	6 53 19.68	125 18 21.9
Mar. 2	E.	. .	21.6
Mean . . .		6 53 19.68	125 18 21.75
Div., Flex., etc.		. .	— 0.16

B. A. C. 2309.

		h. m. s.	° ′ ″
Mar. 10	E.	6 56 58.84	117 45 56.3
Div., Flex., etc.		. .	— 0.27

B. A. C. 2315.

		h. m. s.	° ′ ″
Feb. 19	S.	6 57 31.16	125 22 40.0
Mar. 2	E.	. .	35.1
Mean . . .		6 57 31.16	125 22 37.55
Div., Flex., etc.		. .	— 0.16

B. A. C. 2323.

		h. m. s.	° ′ ″
Feb. 5 (6.0)	W.	6 59 22.50	72 4 35.2
Div., Flex., etc.		. .	— 0.75

LALANDE 13704.

		h. m. s.	° ′ ″
Mar. 14	R.	6 59 33.29	55 48 31.5
15	E.	33.34	31.1
28 (6.2)	R.	33.18	32.8
Mean . . .		6 59 33.27	55 48 31.80
Div., Flex., etc.		. .	— 0.42

LALANDE 13799.

		h. m. s.	° ′ ″
Feb. 16	R.	7 1 23.50	82 20 36.6
Mar. 5	W.	23.31	36.1
Mean . . .		7 1 23 40	82 20 36.35
Div., Flex., etc.		. .	— 0.84

B. A. C. 2378.

		h. m. s.	° ′ ″
Mar. 10	E.	7 8 12.34	126 20 39.4
14	R.	12.39	39.9
24	R.	12.33	39.4
Mean . . .		7 8 12.35	126 20 39.57
Div., Flex., etc.		. .	— 0.18

STONE 3526.

		h. m. s.	° ′ ″
Mar. 14 (6.5)	R.	7 11 14.69	126 20 53.2
Div., Flex., etc.		. .	— 0.18

VII, 3[1] (S.).

		h. m. s.	° ′ ″
Feb. 16 (8.2)	R.	7 12 21.29	120 41 42.4
Mar. 7 (8.6)	S.	21.42	38.9
Mean . . .		7 12 21.36	120 41 40.65
Div., Flex., etc.		. .	— 0.20

VII, 3^2 (N.).

		h. m. s.	° ′ ″
Feb. 16 (6.8)	R.	7 12 21.41	120 41 2.8
Mar. 7 (6.5)	S.	21.44	1.2
Mean . . .		7 12 21.42	120 41 2.00
Div., Flex., etc.		. .	— 0.20

B. A. C. 2413.

		h. m. s.	° ′ ″
Mar. 10	E.	7 12 35.50	126 22 50.6
14 (4.0)	R.	35.50	. .
24	R.	35.42	51.5
Mean . . .		7 12 35.47	126 22 51.05
Div., Flex., etc.		. .	— 0.18

WEISSE (2) 393.

		h. m. s.	° ′ ″
Mar. 5	W.	7 15 1.84	59 56 54.9
Div., Flex., etc.		. .	— 0.43

B. A. C. 2449.

		h. m. s.	° ′ ″
Jan. 27	R.	7 18 27.92	121 41 42.5
Div., Flex., etc.		. .	— 0.18

B. A. C. 2458.

		h. m. s.	° ′ ″
Mar. 14	R.	7 19 23.46	119 4 19.0
Div., Flex., etc.		. .	— 0.23

STONE 3672.

		h. m. s.	° ′ ″
Feb. 16 (6.5)	R.	7 24 17.12	121 36 14.4
Div., Flex., etc.		. .	— 0.19

STONE 3673.

		h. m. s.	° ′ ″
Feb. 16 (7.7)	R.	7 24 17.61	121 36 10.2
Div., Flex., etc.		. .	— 0.19

B. A. C. 2478.

		h. m. s.	° ′ ″
Mar. 24	R.	7 24 29.45	121 12 42.9
Div., Flex., etc.		. .	— 0.20

WEISSE (2) 704.

		h. m. s.	° ′ ″
Mar. 7 (6.7)	S.	7 25 42.57	66 51 38.0
Div., Flex., etc.		. .	— 0.57

WEISSE (2) 703.

		h. m. s.	° ′ ″
Mar. 7 (9.0)	S.	7 25 42.67	66 51 49.0
Div., Flex., etc.		. .	— 0.57

PIAZZI VII, 137.

		h. m. s.	° ′ ″
Mar. 2	E.	7 26 5.07	120 42 46.3
Div., Flex., etc.		. .	— 0.20

α^1 GEMINORUM.

		h. m. s.	° ′ ″
Jan. 27	R.	7 26 59.94	57 51 11.8
Mar. 14	R.	59.91	11.7
Mean . . .		7 26 59.92	57 51 11.75
Div., Flex., etc.		. .	— 0.33

B. A. C. 2502.

		h. m. s.	° ′ ″
Jan. 28	W.	7 29 32.61	126 4 52.9
Mar. 24 (6.2)	R.	32.78	50.9
Mean . . .		7 29 32.70	126 4 51.90
Div., Flex., etc.		. .	— 0.17

STONE 3761.

		h. m. s.	° ′ ″
Jan. 28	W.	7 33 4.63	126 9 . .
Mar. 24 (7.3)	R.	4.66	1.2
Mean . . .		7 33 4.64	126 9 1.20
Div., Flex., etc.		. .	— 0.17

WEISSE (2) 955.

		h. m. s.	° ′ ″
Feb. 5	W.	7 33 50.83	66 42 27.2
17	W.	50.86	29.0
21	W.	50.90	29.5
Mean . . .		7 33 50.86	66 42 28.57
Div., Flex., etc.		. .	— 0.56

B. A. C. 2536.

		h. m. s.	° ′ ″
Jan. 28	W.	7 34 25.24	126 13 . .
Mar. 24 (5.7)	R.	25.32	34.2
Mean . . .		7 34 25.28	126 13 34.20
Div., Flex., etc.		. .	— 0.17

B. A. C. 2543.

		h. m. s.	° ′ ″
Feb. 16	R.	7 35 . .	128 2 3.8
Mar. 2	E.	15.81	5.2
7	S.	16.02	5.9
Mean . . .		7 35 15.92	128 2 4.97
Div., Flex., etc.		. .	— 0.19

B. A. C. 2546.

		h. m. s.	° ′ ″
Feb. 16	R.	7 35 . .	127 59 10.1
Mar. 2	E.	36.11	15.7
7	S.	36.20	11.5
Mean . . .		7 35 36.16	127 59 12.43
Div., Flex., etc.		. .	— 0.19

GROOMBRIDGE 1361, S. P.

		h. m. s.	° ′ ″
July 6	R.	7 40 44.28	347 52 54.0
Div., Flex., etc.		. .	— 1.65

B. A. C. 2580.

		h. m. s.	° ′ ″
Feb. 17	W.	7 41 1.03	127 40 49.3
Div., Flex., etc.		. .	— 0.19

B. A. C. 2593.

		h. m. s.	° ′ ″
Feb. 5	W.	7 42 27.45	129 46 4.6
Div., Flex., etc.		. .	— 0.14

B. A. C. 2604.

		h. m. s.	° ′ ″
Mar. 2	E.	7 44 4.57	130 21 20.9
Div., Flex., etc.		. .	— 0.11

B. A. C. 2608.

		h. m. s.	° ′ ″
Jan. 28	W.	7 44 48.90	124 56 44.9
Div., Flex., etc.		. .	— 0.16

B. A. C. 2614.

		h. m. s.	° ′ ″
Mar. 2	E.	7 45 10.44	130 24 7.3
Div., Flex., etc.		. .	— 0.11

B. A. C. 2629.

		h. m. s.	° ′ ″
Mar. 7	S.	7 47 49.19	124 24 26.0
Div., Flex., etc.		. .	— 0.16

B. A. C. 2634.

		h. m. s.	° ′ ″
Mar. 2	E.	7 48 7.55	130 16 9.8
Div., Flex., etc.		. .	— 0.12

85 GEMINORUM.

		h. m. s.	° ′ ″
Feb. 5	W.	7 48 43.12	69 48 11.0
17	W.	43.13	11.3
Mean . . .		7 48 43.12	69 48 11.15
Div., Flex., etc.		. .	— 0.63

B. A. C. 2646.

		h. m. s.	° ′ ″
Mar. 7	S.	7 50 11.68	124 32 1.5
Div., Flex., etc.		. .	— 0.16

B. A. C. 2649.

		h. m. s.	° ′ ″
Feb. 21	W.	7 51 44.08	73 9 44.2
Div., Flex., etc.		. .	— 0.77

B. A. C. 2671.

		h. m. s.	° ′ ″
Jan. 28	W.	7 55 16.49	128 58 16.0
Div., Flex., etc.		. .	— 0.17

GROOMBRIDGE 1400.

		h. m. s.	° ′ ″
Mar. 1	W.	7 57 59.29	19 56 15.3
10	E.	58.78	15.2
24	R.	58.95	16.4
Mean . . .		7 57 59.01	19 56 15.63
Div., Flex., etc.		. .	— 1.60

TAYLOR 3394.

		h. m. s.	° ′ ″
Apr. 5	R.	7 58 0.74	134 16 11.7
Div., Flex., etc.		. .	— 0.02

B. A. C. 2699.

		h. m. s.	° ′ ″
Feb. 5	W.	7 58 25.73	122 7 51.4
17	W.	25.76	50.6
Mean . . .		7 58 25.74	122 7 51.00
Div., Flex., etc,		. .	— 0.18

WEISSE (2) 1566.

		h. m. s.	° ′ ″
Feb. 21	W.	7 58 34.16	50 38 16.7
Div., Flex., etc.		. .	— 0.89

B. A. C. 2735.

		h. m. s.	° ′ ″
Jan. 28	W.	8 3 29.83	124 51 54.9
Feb. 5	W.	30.14	56.0
Mean . . .		8 3 29.98	124 51 55.45
Div., Flex., etc.		. .	— 0.16

B. A. C. 2743.

		h. m. s.	° ′ ″
Feb. 16	R.	8 4 40.48	125 6 27.5
Div., Flex., etc.		. .	— 0.16

O. Arg. N. 8685.

		h. m. s.	° ′ ″
Mar. 1	W.	8 5 21.27	19 56 52.9
10	E.	21.28	51.9
24 (9.3)	R.	21.60	52.7
Mean . . .		8 5 21.38	19 56 52.50
Div., Flex., etc.		. .	— 1.60

B. A. C. 2762.

		h. m. s.	° ′ ″
Feb. 17	W.	8 7 6.64	129 15 53.7
Div., Flex., etc.		. .	— 0.16

B. A. C. 2772.

		h. m. s.	° ′ ″
Feb. 21	W.	8 8 2.18	126 37 59.3
Apr. 2	W.	2.16	57.5
Mean . . .		8 8 2.17	126 37 58.40
Div., Flex., etc.		. .	— 0.18

B. A. C. 2774.

		h. m. s.	° ′ ″
Apr. 5	R.	8 9 0.14	125 32 26.7
Div., Flex., etc.		. .	— 0.17

B. A. C. 2777.

		h. m. s.	° ′ ″
Jan. 28	W.	8 9 30.12	125 57 43.6
Feb. 16 (6.2)	R.	30.30	47.3
Mean . . .		8 9 30.21	125 57 45.45
Div., Flex., etc.		. .	— 0.17

Brisbane 1942.

		h. m. s.	° ′ ″
Jan. 28	W.	8 9 30.49	125 58 53.1
Feb. 16 (7.4)	R.	30.78	52.1
Mean . . .		8 9 30.64	125 58 52.60
Div., Flex., etc.		. . .	— 0.17

D. M. + 36°, 1782.

		h. m. s.	° ′ ″
Mar. 10	E.	8 9 47.48	53 15 3.3
Div., Flex., etc.		. .	— 0.63

D. M. + 36°, 1783.

		h. m. s.	° ′ ″
Mar. 10	E.	8 9 49.44	53 15 37.8
Div., Flex., etc.		. .	— 0.63

B. A. C. 2778.

		h. m. s.	° ′ ″
Oct. 15	W.	8 10 3.64	80 26 56.6
Div., Flex., etc.		. .	— 0.79

Anonymous.

		h. m. s.	° ′ ″
Mar. 29	W.	8 11 2.89	47 53 33.3
Div., Flex., etc.		. .	— 1.10

Mer. C. Z. 168, 6.

		h. m. s.	° ′ ″
Mar. 2 (7)	E.	8 11 28.71	125 32 18.6
24 (6.7)	R.	28.73	18.2
Mean . . .		8 11 28.72	125 32 18.40
Div., Flex., etc.		. .	— 0.17

M. Z. 232, 21.

		h. m. s.	° ′ ″
Mar. 2 (8)	E.	8 11 42.22	125 31 5.8
24 (8.2)	R.	42.27	4.4
Mean . . .		8 11 42.24	125 31 5.10
Div., Flex., etc.		. .	— 0.17

Anonymous.

		h. m. s.	° ′ ″
Mar. 7	S.	8 12 41.05	125 32 58.4
Div., Flex., etc.		. .	— 0.17

M. Z. 230, 41.

		h. m. s.	° ′ ″
Feb. 17	W.	8 12 41.47	121 39 7.2
Div., Flex., etc.		. .	— 0.19

B. A. C. 2794.

		h. m. s.	° ′ ″
Feb. 5	W.	8 13 45.04	125 4 54.3
Div., Flex., etc.		. .	— 0.16

Anonymous.

		h. m. s.	° ′ ″
Mar. 24 (9.5)	R.	8 14 43.00	125 32 6.4
Div., Flex., etc.		. .	— 0.17

O. Arg. N. 8887.

		h. m. s.	° ′ ″
Apr. 5 (8.8)	R.	8 14 46.03	38 56 21.4
Div., Flex., etc.		. .	— 1.38

B. A. C. 2809.

		h. m. s.	° ′ ″
Mar. 2	E.	8 17 5.92	129 14 32.8
29	W.	6.23	29.7
Mean . . .		8 17 6.08	129 14 31.25
Div., Flex., etc.		. .	— 0.16

Lalande 16413.

		h. m. s.	° ′ ″
Feb. 21	W.	8 17 27.80	54 36 19.8
Div., Flex., etc.		. .	— 0.53

O. Arg. S. 8457.

		h. m. s.	° ′ ″
Feb. 16 (8.5)	R.	8 17 39.94	118 35 32.4
Div., Flex., etc.		. .	— 0.24

B. A. C. 2820.

		h. m. s.	° ′ ″
Mar. 10	E.	8 18 53.20	127 54 14.8
Div., Flex., etc.		. .	— 0.19

O. Arg. N. 9001.

		h. m. s.	° ′ ″
Mar. 1	W.	8 21 2.31	38 56 30.2
28 (8.6)	R.	2.37	29.1
Mean . . .		8 21 2.34	38 56 29.65
Div., Flex., etc.		. .	— 1.38

Lacaille 3325.

		h. m. s.	° ′ ″
Jan. 28	W.	8 22 29.65	121 16 52.9
Div., Flex., etc.		. .	— 0.19

O. Arg. N. 9029.

		h. m. s.	° ′ ″
Mar. 1	W.	8 23 1.19	38 53 40.1
Apr. 5 (8.0)	R.	1.23	38.8
Mean . . .		8 23 1.21	38 53 39.45
Div., Flex., etc.		. .	— 1.38

O. Arg. N. 9033.

		h. m. s.	° ′ ″
Mar. 1	W.	8 23 14.36	38 58 13.1
Apr. 5 (7.5)	R.	14.39	13.4
Mean . . .		8 23 14.38	38 58 13.25
Div., Flex., etc.		. .	— 1.38

O. Arg. N. 9058.

		h. m. s.	° ′ ″
Mar. 28 (8.4)	R.	8 24 13.37	38 56 5.0
Apr. 5 (8.0)	R.	13.66	4.8
Mean . . .		8 24 13.52	38 56 4.90
Div., Flex., etc.		. .	— 1.38

Anonymous.

		h. m. s.	° ′ ″
Feb. 21 (8.8)	W.	8 24 15.20	82 59 5.9
Div., Flex., etc.		. .	— 0.84

Anonymous.

		h. m. s.	° ′ ″
Mar. 25	W.	8 26 2.21	83 51 42.2
Div., Flex., etc.		. .	— 0.83

Lacaille 3373.

		h. m. s.	° ′ ″
Mar. 10	E.	8 26 42.47	128 39 39.4
Div., Flex., etc.		. .	— 0.18

B. A. C. 2877².

		h. m. s.	° ′ ″
Mar. 10	E.	8 27 1.22	128 39 49.8
Div., Flex., etc.		. .	— 0.18

B. A. C. 2890.

		h. m. s.	° ′ ″
Mar. 24	R.	8 29 . .	128 26 33.6
Div., Flex., etc.		. .	— 0.18

O. Arg. N. 9125.

		h. m. s.	° ′ ″
Jan. 27 (8.2)	R.	8 30 8.66	38 55 19.9
Mar. 1	W.	8.74	20.4
Mean . . .		8 30 8.70	38 55 20.15
Div., Flex., etc.		. .	— 1.38

B. A. C. 2900.

		h. m. s.	° ′ ″
Feb. 17	W.	8 30 . .	129 33 43.2
Mar. 7	S.	50.21	41.2
28	R.	50.42	47.0
Mean . . .		8 30 50.32	129 33 43.80
Div., Flex., etc.		. .	— 0.15

Weisse (2) 786.

		h. m. s.	° ′ ″
Feb. 16	R.	8 33 2.15	69 1 18.8
Div., Flex., etc.		. .	— 0.62

D. M. + 20°, 2165.

		h. m. s.	° ′ ″
Mar. 25	W.	8 33 30.63	69 53 38.8
Div., Flex., etc.		. .	— 0.63

Bradley 1224.

		h. m. s.	° ′ ″
Mar. 25	W.	8 33 31.97	69 54 39.2
Div., Flex., etc.,		. .	— 0.63

O. ARG. N. 9210.

		h. m. s.	° ′ ″
Jan. 27 (8.8)	R.	8 [illegible] 40.54	38 55 29.1
Mar. 1	W.	40.42	30.6
Mean . . .		8 33 40.48	38 55 29.85
Div., Flex., etc.		. .	— 1.38

B. A. C. 2933.

		h. m. s.	° ′ ″
Feb. 21	W.	8 34 49.09	126 11 20.5
Div., Flex., etc.		. .	— 0.17

B. A. C. 2943.

		h. m. s.	° ′ ″
Feb. 17	W.	8 38 1.75	22 51 28.4
Div., Flex., etc.		. .	— 1.61

B. A. C. 2980.

		h. m. s.	° ′ ″
Mar. 24 (6.5)	R.	8 42 5.84	124 11 13.6
29	W.	6.05	14.7
Apr. 5	R.	5.87	12.0
Mean . . .		8 42 5.92	124 11 13.43
Div., Flex., etc.		. .	— 0.16

B. A. C. 3012.

		h. m. s.	° ′ ″
Jan. 27	R.	8 45 23.00	128 41 59.0
Feb. 17	W.	23.20	42 2.7
21	W.	23.04	42 1.5
Mean . . .		8 45 23.08	128 42 1.07
Div., Flex., etc.		. .	— 0.18

B. A. C. 3024.

		h. m. s.	° ′ ″
Mar. 7	S.	8 47 31.47	130 32 22.4
11	S.	31.31	23.8
Mean . . .		8 47 31.39	130 32 23.1
Div., Flex., etc.		. .	— 0.11

B. A. C. 3030.

		h. m. s.	° ′ ″
Mar. 24	R.	8 48 15.55	128 16 35.2
Apr. 2	W.	15.28	36.4
5	R.	15.62	35.8
Mean . . .		8 48 15.48	128 16 35.80
Div., Flex., etc.		. .	— 0.18

D. M. + 80°, 281, S. P.

		h. m. s.	° ′ ″
July 10 (9.8)	R.	8 50 3.99	350 47 19.1
Div., Flex., etc.		. .	— 1.64

O. ARG. N. 9450.

		h. m. s.	° ′ ″
Feb. 17	W.	8 50 12.78	41 29 36.7
21	W.	12.91	37.2
Mean . . .		8 50 12.84	41 29 36.95
Div., Flex., etc.		. .	— 1.31

B. A. C. 3053.

		h. m. s.	° ′ ″
Mar. 1	W.	8 51 16.96	80 9 18.6
28	R.	16.94	20.7
29	W.	16.93	17.7
Mean . . .		8 51 16.94	80 9 19.00
Div., Flex., etc.		. .	— 0.78

B. A. C. 3081.

		h. m. s.	° ′ ″
Jan. 27	R.	8 55 38.99	130 47 27.1
Div., Flex., etc.		. .	— 0.10

ABO 185.

		h. m. s.	° ′ ″
Mar. 1	W.	8 56 56.13	38 42 12.4
Div., Flex., etc.		. .	— 1.38

LALANDE 18067.

		h. m. s.	° ′ ″
Mar. 1	W.	9 2 53.31	104 39 31.2
Div., Flex., etc.		. .	— 0.48

B. A. C. 3116.

		h. m. s.	° ′ ″
Feb. 17	W.	9 3 53.36	16 33 36.5
21	W.	53.82	35.0
Mean . . .		9 3 53.59	16 33 35.75
Div., Flex., etc.		. .	— 1.53

B. A. C. 3146.

		h. m. s.	° ′ ″
Mar. 2	E.	9 8 10.36	87 11 4.9
25	W.	10.37	4.2
Mean . . .		9 8 10.36	87 11 4.55
Div., Flex., etc.		. .	— 0.60

B. A. C. 3162[1].

		h. m. s.	° ′ ″
Apr. 15 (8.0)	E.	9 11 25.72	52 41 45.0
Div., Flex., etc.		. .	— 0.67

B. A. C. 3162[2].

		h. m. s.	° ′ ″
Jan. 27	R.	9 11 26.00	52 41 41.8
Mar. 24 (4.0)	R.	26.19	41.8
29	W.	26.15	44.0
Apr. 2	W.	26.06	44.1
15 (5.0)	E.	25.90	43.9
Mean . . .		9 11 26.06	52 41 43.12
Div,, Flex., etc		. .	— 0.67

B. A. C. 3192[1].

		h. m. s.	° ′ ″
Feb. 21	W.	9 15 42.28	121 15 22.5
Div., Flex., etc.		. .	— 0.19

B. A. C. 3193.

		h. m. s.	° ′ ″
Mar. 2	E.	9 15 42.91	127 4 38.3
10	E.	43.10	35.8
Mean . . .		9 15 43.00	127 4 37.05
Div., Flex., etc.		. .	— 0.19

ANONYMOUS.

		h. m. s.	° ′ ″
Feb. 21	W.	9 17 7.97	121 17 27.7
Div., Flex., etc.		. .	— 0.19

ANONYMOUS, S. P.

		h. m. s.	′ ° ″
Oct. 7	W.	9 21 58.59	340 25 7.6
Div., Flex., etc.		. .	— 1.39

ANONYMOUS.

		h. m. s.	° ′ ″
Mar. 24 (11.0)	R.	9 23 0.22	65 42 36.6
Div., Flex., etc.		. .	— 0.53

B. A. C. 3254[1].

		h. m. s.	° ′ ″
Feb. 21	W.	9 25 40.19	121 22 6.9
Div., Flex., etc.		. .	— 0.19

B. A. C. 3254[2].

		h. m. s.	° ′ ″
Feb. 21	W.	9 25 40.67	121 21 59.0
Div., Flex., etc.		. .	— 0.19

B. A. C. 3262.

		h. m. s.	° ′ ″
Feb. 21	W.	9 26 26.94	121 20 54.5
Div., Flex., etc.		. .	— 0.19

B. A. C. 3267.

		h. m. s.	° ′ ″
Mar. 2	E.	9 27 35.98	130 7 24.2
Div., Flex., etc.		. .	— 0.12

D. M. + 37°, 2006.

		h. m. s.	° ′ ″
Mar. 10	E.	9 28 7.66	52 35 . .
11 (8.8)	S.	7.84	25.5
29	W.	7.90	25.9
Mean . . .		9 28 7.80	52 35 25.70
Div., Flex., etc.		. .	— 0.68

D. M. + 37°, 2007.

		h. m. s.	° ′ ″
Mar. 10	E.	9 28 17.33	52 35 . .
11 (8.8)	S.	17.48	28.5
29	W.	17.70	30.8
Mean . . .		9 28 17.50	52 35 29.65
Div., Flex., etc.		. .	— 0.68

PIAZZI IX, 142.

		h. m. s.	° ′ ″
Apr. 2	W.	9 32 2.73	121 38 40.5
4	S.	2.66	40.0
Mean . . .		9 32 2.70	121 38 40.25
Div., Flex., etc.		. .	— 0.19

B. A. C. 3303.

		h. m. s.	° ′ ″
Jan. 27	R.	9 33 . .	90 36 12.2
Mar. 10	E.	. .	12.8
Mean . . .		. .	90 36 12.50
Div., Flex., etc.		. .	— 0.49

B. A. C. 3303 (Ref.).

		h. m. s.	° ′ ″
Jan. 27	R.	. .	90 36 12.2
Mar. 10	E.	. .	10.3
Mean . . .		. .	90 36 11.25
Div., Flex,, etc.		. .	+ 0.65

B. A. C. 3336.

		h. m. s.	° ′ ″
Feb. 16	R.	9 39 53.31	82 44 34.5
Div., Flex., etc.		. .	— 0.84

D. M. + 21°, 2106.

		h. m. s.	° ′ ″
Apr. 16 (9.0)	S.	9 40 38.74	68 36 0.6
Div., Flex., etc.		. .	— 0.61

15 LEONIS MINORIS.

		h. m. s.	° ′ ″
Apr. 11	E.	9 40 54.49	43 25 32.7
Div., Flex., etc.		. .	— 1.27

BRISBANE 2651.

		h. m. s.	° ′ ″
Mar. 2	E.	9 41 22.37	130 5 26.3
Div., Flex., etc.		. .	— 0.13

ANONYMOUS.

		h. m. s.	° ′ ″
Apr. 23	E.	9 42 16.78	123 5 11.2
Div., Flex., etc.		. .	— 0.17

B. A. C. 3346.

		h. m. s.	° ′ ″
Feb. 21	W.	9 42 30.81	30 24 11.5
Apr. 2	W.	31.28	11.6
22	W.	31.22	10.1
Mean . . .		9 42 31.10	30 24 11.07
Div., Flex., etc.		. .	— 1.38

B. A. C. 3346 (Ref.).

		h. m. s.	° ′ ″
Feb. 21	W.	. .	30 24 8.4
Div., Flex., etc.		. .	+ 1.29

D. M. + 16°, 2042.

		h. m. s.	° ′ ″
Feb. 16 (10.5)	R.	9 45 53.08	73 55 16.4
Div., Flex., etc.		. .	— 0.78

ANONYMOUS.

		h. m. s.	° ′ ″
Mar. 29 (8.5)	W.	9 46 10.21	79 40 21.8
Div., Flex., etc.		. .	— 0.79

WEISSE (2) 1047.

		h. m. s.	° ′ ″
Feb. 16 (9.2)	R.	9 50 28.83	72 22 44.0
Mar. 11	S.	28.78	43.8
Mean . . .		9 50 28.80	72 22 43.90
Div., Flex., etc.		. .	— 0.76

ANONYMOUS.

		h. m. s.	° ′ ″
Jan. 27 (12.5)	R.	9 52 38.65	74 28 43.8
Apr. 23 (10.0)	E.	38.86	43.9
Mean . . .		9 52 38.76	74 28 43.85
Div., Flex., etc.		. .	— 0.78

B. A. C. 3415.

		h. m. s.	° ′ ″
Feb. 21	W.	9 53 . .	81 23 8.0
Apr. 11	E.	. .	8.1
Mean . . .		. .	81 23 8.05
Div., Flex., etc.		. .	— 0.82

B. A. C. 3415 (Ref.).

		h. m. s.	° ′ ″
Apr. 11	E.	. .	81 23 9.1
Div., Flex., etc.		. .	+ 0.69

B. A. C. 3417.

		h. m. s.	° ′ ″
Mar. 10	E.	9 53 46.25	125 19 20.1
Div., Flex., etc.		. .	— 0.16

WEISSE (2) 1236.

		h. m. s.	° ′ ″
Feb. 16	R.	9 59 13.28	73 39 53.1
Div., Flex., etc.		. .	— 0.78

B. A. C. 3452.

		h. m. s.	° ′ ″
Mar. 29	W.	10 0 26.03	120 18 47.2
Apr. 4	S.	25.86	45.8
Mean . . .		10 0 25.94	120 18 46.50
Div., Flex., etc.		. .	— 0.21

WEISSE (2) 1282.

		h. m. s.	° ′ ″
Apr. 16	S.	10 1 14.07	73 8 34.3
23	E.	14.15	35.8
Mean . . .		10 1 14.11	73 8 35.05
Div., Flex., etc.		. .	— 0.77

LALANDE 19809.

		h. m. s.	° ′ ″
Feb. 16 (8.8)	R.	10 4 31.19	74 55 56.7
Mar. 10	E.	31.18	55.5
Mean . . .		10 4 31.18	74 55 56.10
Div., Flex., etc.		. .	— 0.79

ANONYMOUS.

		h. m. s.	° ′ ″
Mar. 2	E.	10 4 46.60	92 2 35.9
Div., Flex., etc.		. .	— 0.46

B. A. C. 3494.

		h. m. s.	° ′ ″
Mar. 10	E.	10 9 9.49	122 26 43.14
Div., Flex., etc.		. .	— 0.18

PIAZZI X, 32.

		h. m. s.	° ′ ″
Feb. 16	R.	10 10 32.10	132 31 10.5
Div., Flex., etc.		. .	— 0.06

BONN VI + 49°, 1940.

		h. m. s.	° ′ ″
Apr. 5 (5.8)	R.	10 12 2.75	41 0 16.9
16	S.	2.81	17.1
23	E.	2.98	17.9
Mean . . .		10 12 2.85	41 0 17.30
Div., Flex., etc.		. .	— 1.31

B. A. C. 3527.

		h. m. s.	° ′ ″
Apr. 4	S.	10 13 24.29	131 4 22.7
Div., Flex., etc.		. .	— 0.09

B. A. C. 3552.

		h. m. s.	° ′ ″
Apr. 4	S.	10 17 13.40	131 3 5.9
Div., Flex., etc.		. .	— 0.09

CARRINGTON 1547, S. P.

		h. m. s.	° ′ ″
July 15	W.	10 18 34.01	352 12 56.8
Div., Flex., etc.		. .	— 1.70

ANONYMOUS.

		h. m. s.	° ′ ″
Feb. 16	R.	10 23 53.83	72 59 44.3
Apr. 5	R.	53.72	44.6
23 (11.0)	E.	54.25	40.2
Mean . . .		10 23 53.93	72 59 43.03
Div., Flex., etc.		. .	— 0.77

WEISSE 520.

		h. m. s.	° ′ ″
Apr. 4	S.	10 30 36.83	101 35 32.2
5 (6.0)	R.	37.09	31.3
Mean . . .		10 30 36.96	101 35 31.75
Div., Flex., etc.		. .	— 0.53

D. M. — 1°, 2416.

		h. m. s.	° ′ ″
Apr. 23 (9.0)	E.	10 32 11.98	91 12 23.2
Div., Flex., etc.		. .	— 0.48

X, 11.

		h. m. s.	° ′ ″
Feb. 16	R.	10 32 17.60	125 6 9.0
Div., Flex., etc.		. .	— 0.16

ANONYMOUS.

		h. m. s.	° ′ ″
Apr. 23 (10.0)	E.	10 32 26.65	91 6 26.4
Div., Flex., etc.		. .	— 0.48

B. A. C. 3652.

		h. m. s.	° ′ ″
Apr. 22	W.	10 34 31.92	20 18 8.7
Div., Flex., etc.		. .	— 1.60

B. A. C. 3652 (Ref.).

		h. m. s.	° ′ ″
Apr. 22	W.	. .	20 18 4.3
Div., Flex., etc.		. .	+ 1.51

ANONYMOUS.

		h. m. s.	° ′ ″
May 24 (12.0)	R.	10 35 . .	96 28 45.2
Apr. 16 (10.5)	S.	46.35	43.1
Mean . . .		10 35 46.35	96 28 44.1
Div., Flex., etc.		. .	— 0.3

B. A. C. 3670.

		h. m. s.	° ′ ″
Feb. 16 (7.2)	R.	10 37 1.01	43 10 6.[illegible]
Div., Flex., etc.		. .	— 1.[illegible]

ANONYMOUS.

		h. m. s.	° ′ ″
Mar. 24 (11.0)	R.	10 37.1 . .	96 23 53.[illegible]
Div., Flex., etc.		. .	— 0.[illegible]

ANONYMOUS.

		h. m. s.	° ′ ″
Apr. 22	W.	10 43 35.35	78 17 18.[illegible]
Div., Flex., etc.		. .	— 0.8

D. M. + 11°, 2286.

		h. m. s.	° ′ ″
Feb. 16	R.	10 43 58.90	78 17 22.[illegible]
Apr. 22	W.	59.05	22.[illegible]
23	W.	59.05	23.8
Mean . . .		10 43 59.00	78 17 22.8
Div., Flex., etc.		. .	— 0.8

46 LEONIS MINORIS.

		h. m. s.	° ′ ″
Mar. 29	W.	10 46 39.10	55 8 40.[illegible]
Div., Flex., etc.		. .	— 0.4

O. ARG. N. 11292.

		h. m. s.	° ′ ″
Feb. 21	W.	10 52 15.84	37 28 51.7
Div., Flex., etc.		. .	— 1.4

WEISSE (2) 1032.

		h. m. s.	° ′ ″
Mar. 13	W.	10 52 54.24	53 16 5.4
29	W.	54.11	6.0
Mean . . .		10 52 54.18	53 16 5.7
Div., Flex., etc.		. .	— 0.6

TR. Z. 11, 7.

		h. m. s.	° ′ ″
Apr. 4	S.	11 20 45.43	126 13 42.4
Div., Flex., etc.		. .	— 0.1

WEISSE 349.

		h. m. s.	° ′ ″
16	W.	11 21 49.83	86 30 51.7
Flex., etc.		. .	— 0.66

B. A. C. 3906.

		h. m. s.	° ′ ″
10	W.	11 23 24.38	8 13 6.5
Flex., etc.		. .	— 1.36

B. A. C. 3906, S. P.

		h. m. s.	° ′ ″
11	W.	11 23 22.72	351 46 58.2
Flex., etc.		. .	— 1.69

BRISBANE 3607.

		h. m. s.	° ′ ″
23	E.	11 24 17.48	134 2 10.2
Flex., etc.		. .	— 0.03

TAYLOR 5270.

		h. m. s.	° ′ ″
28	S.	11 25 25.98	134 18 40.2
7	R.	25.66	43.7
. . .		11 25 25.82	134 18 41.95
Flex., etc.		. .	— 0.02

BRISBANE 3626.

		h. m. s.	° ′ ″
23	E.	11 25 51.43	134 4 58.8
Flex., etc.		. .	— 0.03

TR. Z. 6, 7.

		h. m. s.	° ′ ″
16	W.	11 25 54.00	129 31 25.0
Flex., etc.		. .	— 0.15

ANONYMOUS.

		h. m. s.	° ′ ″
22	W.	11 28 42.59	132 34 53.6
Flex., etc.		. .	— 0.06

B. A. C. 3934.

		h. m. s.	° ′ ″
4	S.	11 28 42.62	122 12 4.1
Flex., etc.		. .	— 0.18

B. A. C. 3945.

		h. m. s.	° ′ ″
29	W.	11 30 41.03	122 54 38.0
Flex., etc.		. .	— 0.17

B. A. C. 3948.

		h. m. s.	° ′ ″
4	S.	11 31 7.10	122 19 38.5
Flex., etc.		. .	— 0.18

D. M. + 3°, 2536.

		h. m. s.	° ′ ″
5 (9.5)	R.	11 36 1.00	86 53 47.0
Flex., etc.		. .	— 0.63

GROOMBRIDGE 1822.

		h. m. s.	° ′ ″
13	W.	11 39 18.53	41 39 47.1
29	W.	18.41	48.5
. . .		11 39 18.47	41 39 47.80
Flex., etc.		. .	— 1.30

B. A. C. 3981.

		h. m. s.	° ′ ″
Mar. 24	R.	11 39 . .	41 33 40.4
Apr. 10	W.	. .	41.6
May 16	W.	45.93	40.1
Mean . . .		11 39 45.93	41 33 40.70
Div., Flex., etc.		. .	— 1.30

B. A. C. 3981 (Ref.).

		h. m. s.	° ′ ″
Mar. 24	R.	. .	41 33 40.6
Apr. 10	W.	. .	37.0
Mean . . .		. .	41 33 38.80
Div., Flex., etc.		. .	+ 0.91

B. A. C. 4002.

		h. m. s.	° ′ ″
Mar. 29	W.	11 44 29.70	87 33 54.5
May 7	R.	29.87	52.7
16	W.	29.78	54.8
Mean . . .		11 44 29.78	87 33 54.00
Div., Flex., etc.		. .	— 0.57

B. A. C. 4006.

		h. m. s.	° ′ ″
Feb. 16	R.	11 44 57.24	94 40 18.6
Div., Flex., etc.		. .	— 0.45

LALANDE 22585.

		h. m. s.	° ′ ″
Apr. 10	W.	11 54 38.22	99 46 6.7
16	S.	38.06	5.2
Mean . . .		11 54 38.14	99 46 5.95
Div., Flex., etc.		. .	— 0.42

B. A. C. 4063.

		h. m. s.	° ′ ″
Feb. 16	R.	11 57 30.25	94 48 59.8
Div., Flex., etc.		. .	— 0.45

B. A. C. 4123.

		h. m. s.	° ′ ″
May 10	S.	12 9 . .	32 18 22.4
Div., Flex., etc.		. .	— 1.36

B. A. C. 4123 (Ref.).

		h. m. s.	° ′ ″
May 10	S.	. .	32 18 20.5
Div., Flex., etc.		. .	+ 1.16

D. M. + 3°, 2627.

		h. m. s.	° ′ ″
Apr. 16 (9.5)	S.	12 13 0.97	86 33 31.7
22	W.	1.04	30.2
23	E.	1.07	31.3
Mean . . .		12 13 1.03	86 33 31.07
Div., Flex., etc.		. .	— 0.66

14 VIRGINIS.

		h. m. s.	° ′ ″
Feb. 16	R.	12 13 12.75	98 15 9.4
Div., Flex., etc.		. .	— 0.34

B. A. C. 4165.

		h. m. s.	° ′ ″
Apr. 10	W.	12 14 21.01	1 38 26.7
May 8	W.	24.25	25.3
Mean . . .		12 14 22.63	1 38 26.00
Div., Flex., etc.		. .	— 1.42

B. A. C. 4165 S. P.

		h. m. s.	° ′ ″
Dec. 27	E.	12 14 20.95	358 21 36.2
Div., Flex., etc.		. .	— 1.46

WEISSE 220.

		h. m. s.	° ′ ″
Apr. 16 (8.3)	S.	12 15 21.09	86 36 38.7
22	W.	21.04	38.6
23	E.	21.07	40.0
Mean . . .		12 15 21.07	86 36 39.10
Div., Flex., etc.		. .	— 0.66

B. A. C. 4195.

		h. m. s.	° ′ ″
Apr. 23	E.	12 21 0.29	61 4 14.2
30	W.	. .	9.8
May 8	W.	0.36	11.6
16	W.	. .	13.4
Mean . . .		12 21 0.32	61 4 12.25
Div., Flex., etc.		. .	— 0.50

B. A. C. 4195 (Ref.).

		h. m. s.	° ′ ″
Apr. 30	W.	. .	61 4 9.2
May 16	W.	. .	11.0
Mean . . .		. .	61 4 10.10
Div., Flex., etc.		. .	+ 0.44

B. A. C. 4201.

		h. m. s.	° ′ ″
Feb. 16	R.	12 21 48.91	98 1 4.3
Div., Flex., etc.		. .	— 0.33

B. A. C. 4211[1].

		h. m. s.	° ′ ″
Apr. 23 (8.5)	E.	12 23 41.45	105 51 33.1
Div., Flex., etc.		. .	— 0.45

B. A. C. 4211[2].

		h. m. s.	° ′ ″
Apr. 23 (3.0)	E.	12 23 42.43	105 51 12.0
May 20	W.	42.52	10.7
Mean . . .		12 23 42.48	105 51 11.35
Div., Flex., etc.		. .	— 0.45

ANONYMOUS.

		h. m. s.	° ′ ″
Apr. 10 (10.0)	W.	12 25 49.39	82 0 0.3
16 (11.0)	S.	49.23	81 59 59.7
Mean . . .		12 25 49.31	82 0 0.00
Div., Flex., etc.		. .	— 0.84

B. A. C. 4271.

		h. m. s.	° ′ ″
Feb. 16	R.	12 35 . .	79 6 31.1
Apr. 16	S.	. .	31.5
23	E.	51.65	31.2
May 8	W.	51.63	28.7
16	W.	. .	29.9
21	E.	. .	29.2
Mean . . .		12 35 51.64	79 6 30.27
Div., Flex., etc.		. .	— 0.80

B. A. C. 4271 (Ref.).

		h. m. s.	° ′ ″
Feb. 16	R.	. .	79 6 30.5
Apr. 16	S.	. .	29.7
May 16	W.	. .	29.8
21	E.	. .	27.0
Mean . . .		. .	79 6 29.25
Div., Flex., etc.		. .	+ 0.68

32¹ Camelopardalis, S. P.

		h. m. s.	° ′ ″
Nov. 25	E.	12 48 8.18	354 3 55.5
Div., Flex., etc.		. .	— 1.71

B. A. C. 4335.

		h. m. s.	° ′ ″
Apr. 16	S.	12 48 . .	33 23 39.0
Div., Flex., etc.		. .	— 1.36

B. A. C. 4335 (Ref.).

		h. m. s.	° ′ ″
Apr. 16	S.	. .	33 23 38.8
Div., Flex., etc.		. .	+ 1.13

B. A. C. 4341.

		h. m. s.	° ′ ″
Apr. 22	W.	12 49 30.44	42 9 28.9
Div., Flex., etc.		. .	— 1.30

α¹ Canum Venaticorum.

		h. m. s.	° ′ ″
May 8	W.	12 50 26.36	51 2 32.6
25	E.	26.24	34.1
Mean . . .		12 50 26.30	51 2 33.35
Div., Flex., etc.		. .	— 0.85

B. A. C. 4350.

		h. m. s.	° ′ ″
Apr. 23	E.	12 51 41.62	43 10 42.1
28	S.	41.61	39.0
30	W.	41.89	39.7
Mean . . .		12 51 41 71	43 10 40.27
Div., Flex., etc.		. .	— 1.27

B. A. C. 4357².

		h. m. s.	° ′ ″
Apr. 22	W.	12 54 31.59	122 58 52.4
Div., Flex., etc.		. .	— 0.17

B. A. C. 4367.

		h. m. s.	° ′ ″
May 25	E.	12 56 . .	78 24 3.4
Div., Flex., etc.		. .	— 0.82

B. A. C. 4367 (Ref.).

		h. m. s.	° ′ ″
May 25	E	. .	78 24 2.7
Div., Flex., etc.		. .	+ 0.65

O. Arg. N. 13510.

		h. m. s.	° ′ ″
May 8	W.	13 12 34.27	20 57 53.0
9	E.	33.75	53.6
20	W.	33.85	55.4
Mean . . .		13 12 33.96	20 57 54.00
Div., Flex., etc.		. .	— 1.61

B. A. C. 4458.

		h. m. s.	° ′ ″
May 10	S.	13 13 54.88	126 5 3.4
21	E.	54.73	2.9
27	R.	54.76	4.8
28	W.	54.78	4.5
Mean . . .		13 13 54.79	126 5 3.90
Div., Flex., etc.		. .	— 0.17

B. A. C. 4470.

		h. m. s.	° ′ ″
May 27	R.	13 15 38.73	87 17 13.3
28	W.	38.67	. .
Dec. 16	S.	38.72	13.0
Mean . . .		13 15 38.71	87 17 13.15
Div., Flex., etc.		. .	— 0.59

B. A. C. 4482.

		h. m. s.	° ′ ″
Apr. 23	E.	13 19 13.95	129 8 2.8
Div., Flex., etc.		. .	— 0.17

B. A. C. 4489.

		h. m. s.	° ′ ″
May 25	E.	13 20 1.12	130 52 42.4
Div., Flex., etc.		. .	— 0.09

Lalande 25012.

		h. m. s.	° ′ ″
May 7 (7.5)	R.	13 25 38.91	91 42 46.1
9	E.	38.79	46.5
Mean . . .		13 25 38.85	91 42 46.30
Div., Flex., etc.		. .	— 0.47

Weisse (2) 685.

		h. m. s.	° ′ ″
May 7 (6.7)	R.	13 34 50.54	58 23 15.5
21	E.	50.41	17.1
24	W.	50.50	16.7
Mean . . .		13 34 50.48	58 23 16.43
Div., Flex., etc.		. .	— 0.34

B. A. C. 4568.

		h. m. s.	° ′ ″
May 16	W.	13 36 13.70	34 42 57.7
Div., Flex., etc.		. .	— 1.35

D. M. + 15°, 2617.

		h. m. s.	° ′ ″
Apr. 22 (9.5)	W.	13 38 59.47	74 28 0.2
Div., Flex., etc.		. .	— 0.78

Lalande 25372.

		h. m. s.	° ′ ″
Apr. 22 (8.5)	W.	13 39 42.21	74 27 47.7
28	S.	42.32	47.3
Mean . . .		13 39 42.26	74 27 47.50
Div., Flex., etc.		. .	— 0.78

B. A. C. 4624.

		h. m. s.	° ′ ″
May 7	R.	13 45 11.77	121 1 39.7
Div., Flex., etc.		. .	— 0.20

B. A. C. 4643.

		h. m. s.	° ′ ″
May 10	S.	13 45 48.00	6 39 5.0
12	W.	48.56	3.7
June 21	W.	48.02	. .
Mean . . .		13 45 48.19	6 39 4.35
Div., Flex., etc.		. .	— 1.38

B. A. C. 4649.

		h. m. s.	° ′ ″
Apr. 29	R.	13 49 28.27	35 41 9.8
Div., Flex., etc.		. .	— 1.36

Weisse 931.

		h. m. s.	° ′ ″
Apr. 29 (9.0)	R.	13 55 30.58	87 52 18.0
May 7 (8.5)	R.	30.67	16.8
25	E.	30.56	18.3
Mean . . .		13 55 30.60	87 52 17.70
Div., Flex., etc.		. .	— 0.54

B. A. C. 4672.

		h. m. s.	° ′ ″
Apr. 29	R.	13 55 35.51	87 52 45.5
May 7	R.	35.58	44.2
25	E.	35.51	44.6
June 21	W.	35.50	44.1
Mean . . .		13 55 35.52	87 52 44.60
Div., Flex., etc.		. .	— 0.54

B. A. C. 4674.

		h. m. s.	° ′ ″
May 10	S.	13 56 7.54	121 6 42.6
24	W.	7.43	45.9
Mean . . .		13 56 7.48	121 6 44.25
Div., Flex., etc.		. .	— 0.20

Lalande 25839.

		h. m. s.	° ′ ″
Apr. 30	W.	13 57 28.67	43 40 11.1
May 20	W.	28.63	15.1
28	W.	28.65	13.7
Mean . . .		13 57 28.65	43 40 13.30
Div., Flex., etc.		. .	— 1.26

B. A. C. 4679.

		h. m. s.	° ′ ″
June 8	R.	13 58 0.58	104 23 56.8
Div., Flex., etc.		. .	— 0.49

B. A. C. 4681.

		h. m. s.	° ′ ″
May 24	W.	13 58 47.26	130 36 33.1
Div., Flex., etc.		. .	— 0.11

B. A. C. 4700.

		h. m. s.	° ′ ″
June 8	R.	14 4 20.67	105 44 21.0
Div., Flex., etc.		. .	— 0.45

κ Virginis.

		h. m. s.	° ′ ″
Apr. 28	S.	14 6 33.02	99 43 8.1
29	R.	32.94	7.7
Mean . . .		14 6 32 98	99 43 7.90
Div., Flex., etc.		. .	— 0.41

B. A. C. 4739.

		h. m. s.	° ′ ″
June 8	R.	14 12 3.58	108 9 50.8
Div., Flex., etc.		. .	— 0.45

B. A. C. 4759.

		h. m. s.	° ′ ″
Apr. 22	W.	14 15 42.67	128 58 1.0
29	R.	42.68	58 0.5
May 7 (5.0)	R.	42.82	57 59.4
Mean . . .		14 15 42.72	128 58 0.30
Div., Flex., etc.		. .	— 0.17

Taylor 6714.

		h. m. s.	° ′ ″
May 7 (7.2)	R.	14 17 46.10	126 54 18.8
Div., Flex., etc.		. .	— 0.19

B. A. C. 4813.

		h. m. s.	° ′ ″
May 7	R.	14 28 0.49	130 59 37.0
Div., Flex., etc.		. .	— 0.09

B. A. C. 4814.

		h. m. s.	° ′ ″
June 8	R.	14 28 9.09	109 54 59.1
Div., Flex., etc.		. .	— 0.48

B. A. C. 4905[1].

		h. m. s.	° ′ ″
May 20	W.	14 45 53.66	70 24 17.2
25 (8.0)	E.	53.73	16.8
Mean . . .		14 45 53.70	70 24 17.00
Div., Flex., etc.		. .	— 0.65

B. A. C. 4905[2].

		h. m. s.	° ′ ″
May 20	W.	14 45 53.95	70 24 16.7
25 (4.0)	E.	54.04	17.4
Mean . . .		14 45 54.00	70 24 17.05
Div., Flex., etc.		. .	— 0.65

ANONYMOUS.

		h. m. s.	° ′ ″
June 21	W.	14 48 46.24	114 47 14.4
Div., Flex.. etc.		. .	— 0.38

XIV, 25.

		h. m. s.	° ′ ″
June 22	E.	14 49 35.45	111 30 12.1
Div., Flex., etc.		. .	— 0.50

LALANDE 27173[1].

		h. m. s.	° ′ ″
May 24	W.	14 50 30.07	110 52 34.7
28	W.	30.27	34.4
Mean . . .		14 50 30.17	110 52 34.55
Div., Flex., etc.		. .	— 0.50

LALANDE 27173[2].

		h. m. s.	° ′ ″
May 24	W.	14 50 31.00	110 52 40.3
28	W.	31.20	39.6
Mean . . .		14 50 31.10	110 52 39.95
Div., Flex., etc.		. .	— 0.50

LALANDE 27250.

		h. m. s.	° ′ ″
May 20	W.	14 50 54.52	49 51 58.3
June 13	W.	. .	57.8
Mean . . .		14 50 54.52	49 51 58.05
Div., Flex., etc.		. .	— 0.97

LALANDE 27265.

		h. m. s.	° ′ ″
May 20	W.	14 51 12.32	49 52 16.0
June 13	W.	. .	15.2
Mean . . .		14 51 12.32	49 52 15.60
Div., Flex., etc.		. .	— 0.97

WEISSE 989.

		h. m. s.	° ′ ″
May 28	W.	14 54 16.49	100 38 45.4
June 21	W.	16.69	46.6
Mean . . .		14 54 16.59	100 38 46.00
Div., Flex., etc.		. .	— 0.47

ANONYMOUS.

		h. m. s.	° ′ ″
May 28	W.	14 54 29.48	100 37 41.4
Div., Flex., etc.		. .	— 0.47

ANONYMOUS[2].*

		h. m. s.	° ′ ″
May 25 (10.0)	E.	14 57 22.87	111 36 56.0
27 (9.8)	R.	22.75	57.3
Mean . . .		14 57 22.81	111 36 56.65
Div., Flex., etc.		. .	— 0.50

*Close double. The pr. *comes* is about 11th mag.

B. A. C. 4982.

		h. m. s.	° ′ ″
May 20	W.	14 58 27.50	7 0 3.5
Div., Flex., etc.		. .	— 1.36

XIV, 30.

		h. m. s.	° ′ ″
May 24	W.	14 59 32.12	127 29 1.4
Div., Flex., etc.		. .	— 0.19

B. A. C. 4980.

		h. m. s.	° ′ ″
July 5	S.	15 1 . .	41 23 21.0
Div., Flex., etc.		. .	— 1.31

B. A. C. 4980 (Ref.)

		h. m. s.	° ′ ″
July 5	S.	. .	41 23 17.2
Div., Flex., etc.		. .	+ 0.92

ANONYMOUS.

		h. m. s.	° ′ ″
May 20 (11.0)	W.	15 4 18.85	112 58 13.3
Div., Flex., etc.		. .	— 0.48

LALANDE 28029.

		h. m. s.	° ′ ″
May 25	E.	15 15 42.75	48 35 30.1
27	R.	42.83	30.7
Mean . . .		15 15 42.79	48 35 30.40
Div., Flex., etc.		. .	— 1.05

11 URSÆ MINORIS, S. P.

		h. m. s.	° ′ ″
Oct. 22	R.	15 17 12.07	342 15 22.6
Div., Flex., etc.		. .	— 1.51

B. A. C. 5077.

		h. m. s.	° ′ ″
May 28	W.	15 18 0.77	37 13 46.6
Div., Flex., etc.		. .	— 1.40

B. A. C. 5076.

		h. m. s.	° ′ ″
May 20	W.	15 18 13.29	49 59 37.6
Div., Flex., etc.		. .	— 0.96

B. A. C. 5082.

		h. m. s.	° ′ ″
May 25	E.	15 19 41.26	126 20 54.5
June 18	E.	41.15	56.0
21	W.	41.33	54.5
Mean . . .		15 19 41.25	126 20 55.00
Div., Flex., etc.		. .	— 0.18

O. ARG. N. 15347.

		h. m. s.	° ′ ″
May 24	W.	15 20 4.39	44 18 31.5
June 13	W.	. .	30.2
Mean . . .		15 20 4.39	44 18 30.85
Div., Flex., etc.		. .	— 1.25

B. A. C. 5092.

		h. m. s.	° ′ ″
May 28	W.	15 21 16.54	42 31 11.7
Div., Flex., etc.		. .	— 1.28

B. A. C. 5097.

		h. m. s.	° ′ ″
July 1	S.	15 22 . .	30 37 2.9
Oct. 27	W.	17.20	2.2
Nov. 27	W.	17.34	1.1
Mean . . .		15 22 17.27	30 37 2.07
Div., Flex., etc.		. .	— 1.38

B. A. C. 5097 (Ref.).

		h. m. s.	° ′ ″
July 1	S.	. .	30 36 58.5
Div., Flex., etc.		. .	+ 1.27

WEISSE (2) 463.

		h. m. s.	° ′ ″
June 18	E.	15 22 31.82	64 29 2.6
21	W.	31.90	0.5
22	E.	31.89	1.9
Mean . . .		15 22 31.87	64 29 1.67
Div., Flex., etc.		. .	— 0.52

XV, 11.

		h. m. s.	° ′ ″
May 24	W.	15 24 31.06	117 59 55.6
Div., Flex., etc.		. .	— 0.26

XV, 12.

		h. m. s.	° ′ ″
June 22	E.	15 26 1.90	115 23 43.4
Div., Flex., etc.		. .	— 0.35

LALANDE 28358.

		h. m. s.	° ′ ″
May 20	W.	15 26 7.64	32 9 6.9
28	W.	7.72	6.3
Mean . . .		15 26 7.68	32 9 6.60
Div., Flex., etc.		. .	— 1.36

B. A. C. 5118.

		h. m. s.	° ′ ″
June 18	E.	15 27 12.94	130 45 55.6
Div., Flex., etc.		. .	— 0.10

B. A. C. 5147.

		h. m. s.	° ′ ″
May 24	W.	15 29 15.88	25 23 29.8
July 5	S.	15.51	28.8
Mean . . .		15 29 15.70	25 23 29.30
Div., Flex., etc.		. .	— 1.50

B. A. C. 5150.

		h. m. s.	° ′ ″
July 1	S.	15 30 46.51	79 35 27.6
9	S.	46.46	28.2
14 (5.8)	R.	46.55	28.4
Mean . . .		15 30 46.51	79 35 28.07
Div., Flex., etc.		. .	— 0.79

B. A. C. 5164.

		h. m. s.	° ′ ″
May 28	W.	15 31 40.68	39 54 23.5
Div., Flex., etc.		. .	— 1.35

O. Arg. S. 14736.

		h. m. s.	° ′ ″
June 18 (9.0)	E.	15 32 34.17	113 24 42.5
22	E.	34.15	42.0
Mean . . .		15 32 34.16	113 24 42.25
Div., Flex., etc.		. .	— 0.46

Bonn VI + 52°, 1886.

		h. m. s.	° ′ ″
July 5	S.	15 32 43.84	37 32 24.6
9	S.	44.04	26.4
14 (7.2)	R.	44.19	25.8
Mean . . .		15 32 44.02	37 32 25.60
Div., Flex., etc.		. .	— 1.40

42 Libræ.

		h. m. s.	° ′ ″
June 18	E.	15 33 14.96	113 25 48.7
22	E.	15.02	48.9
Mean . . .		15 33 14.99	113 25 48.80
Div., Flex., etc.		. .	— 0.46

B. A. C. 5177.

		h. m. s.	° ′ ″
May 20	W.	15 34 27.67	42 48.5

B. A. C. 5202.

		h. m. s.	° ′ ″
May 24	W.	15 39 45.59	127 32 18.0
Div., Flex., etc.		. .	— 0.19

Anonymous.

		h. m. s.	° ′ ″
June 18 (10.5)	E.	15 40 32.75	100 58 6.1
22 (10.5)	E.	32.71	3.1
Mean . . .		15 40 32.73	100 58 4.60
Div., Flex., etc.		. .	— 0.49

Lalande (F.) 2683.

		h. m. s.	° ′ ″
May 28	W.	15 41 14.75	36 38 43.6
July 1	S.	14.79	44.3
Mean . . .		15 41 14.77	36 38 43.95
Div., Flex., etc.		. .	— 1.39

B. A. C. 5234.

		h. m. s.	° ′ ″
July 1	S.	15 43 22.97	71 29 24.8
Div., Flex., etc.		. .	— 0.72

B. A. C. 5248.

		h. m. s.	° ′ ″
May 28	W.	15 44 45.78	34 15 32.4
Div., Flex., etc.		. .	— 1.36

B. A. C. 5261.

		h. m. s.	° ′ ″
June 22	E.	15 48 3.91	120 43 58.7
Div., Flex., etc.		. .	— 0.20

B. A. C. 5267.

		h. m. s.	° ′ ″
July 1	S.	15 48 44.82	121 26 9.7
Div., Flex., etc.		. .	— 0.19

Lalande 28967, 8.

		h. m. s.	° ′ ″
May 24	W.	15 48 55.34	81 4 6.5
25	E.	55.35	6.6
Mean . . .		15 48 55.34	81 4 6.55
Div., Flex., etc.		. .	— 0.80

Lalande 28975.

		h. m. s.	° ′ ″
May 24	W.	15 49 4.69	81 3 53.7
25	E.	4.75	52.8
Mean . . .		15 49 4.72	81 3 53.25
Div., Flex., etc.		. .	— 0.80

B. A. C. 5279.

		h. m. s.	° ′ ″
July 9	S.	15 49 30.47	33 49 18.1
Div., Flex., etc.		. .	— 1.36

XV, 24.

		h. m. s.	° ′ ″
May 27 (7.5)	R.	15 49 54.79	119 38 49.0
Div., Flex., etc.		. .	— 0.22

Anonymous.

		h. m. s.	° ′ ″
May 27 (10.5)	R.	15 51 36.32	119 38 29.7
Div., Flex., etc.		. .	— 0.22

Tr. Z. 17, 67.

		h. m. s.	° ′ ″
May 27 (9.5)	R.	15 51 50.18	119 38 4.6
Div., Flex., etc.		. .	— 0.22

Weisse 983.

		h. m. s.	° ′ ″
May 24	W.	15 53 10.65	81 5 45.1
25	E.	10.66	43.7
Mean . . .		15 53 10.66	81 5 44.40
Div., Flex., etc.		. .	— 0.80

Lalande 29122.

		h. m. s.	° ′ ″
May 24	W.	15 54 22.12	81 2 30.2
25	E.	22.15	30.5
Mean . . .		15 54 22.14	81 2 30.35
Div., Flex., etc.		. .	— 0.80

B. A. C. 5310.

		h. m. s.	° ′ ″
June 18	E.	15 54 34.08	53 1 6.0
Div., Flex., etc.		. .	— 0.65

B. A. C. 5316.

		h. m. s.	° ′ ″
July 9	S.	15 55 41.79	39 46 47.1
Div., Flex., etc.		. .	— 1.36

B. A. C. 5352.

		h. m. s.	° ′ ″
July 5	S.	15 55 53.15	6 41 46.0
14 (8.0)	R.	52.93	46.5
Mean . . .		15 55 53.04	6 41 46.25
Div., Flex., etc.		. .	— 1.37

Lalande 29290.

		h. m. s.	° ′ ″
May 24	W.	15 59 52.00	103 59 8.8
June 18	E.	52.14	7.1
Mean . . .		15 59 52.07	103 59 7.95
Div., Flex., etc.		. .	— 0.51

B. A. C. 5356.

		h. m. s.	° ′ ″
June 22	E.	16 1 58.41	120 44 3.5
July 10 (7.0)	R.	58.40	3.5
14 (7.2)	R.	58.42	3.8
Mean . . .		16 1 58.41	120 44 3.60
Div., Flex., etc.		. .	— 0.20

B. A. C. 5358.

		h. m. s.	° ′ ″
Aug. 3	R.	16 2 14.99	123 13 41.0
Div., Flex., etc.		. .	— 0.17

κ^1 Herculis

		h. m. s.	° ′ ″
May 27 (6.2)	R.	16 2 42.36	72 38 8.5
Div., Flex., etc.		. .	— 0.76

κ^2 Herculis.

		h. m. s.	° ′ ″
May 27 (7.0)	R.	16 2 42.81	72 37 38.1
Div., Flex., etc.		. .	— 0.76

B. A. C. 5393.

		h. m. s.	° ′ ″
May 24	W.	16 6 40.36	121 20 61.6
June 18	E.	40.55	64.1
22	E.	40.41	62.1
Aug. 3	R.	40.46	58.3
Mean . . .		16 6 40.44	121 21 1.52
Div., Flex., etc.		. .	— 0.19

B. A. C. 5417.

		h. m. s.	° ′ ″
Aug. 3	R.	16 7 51.36	47 19 11.3
Div., Flex., etc.		. .	— 1.14

B. A. C. 5416.

		h. m. s.	° ′ ″
June 22	E.	16 8 34.80	120 19 16.0
Div., Flex., etc.		. .	— 0.21

B. A. C. 5435[1].

		h. m. s.	° ′ ″
May 24	W.	16 12 0.06	120 36 42.6
June 22 (7.0)	E.	0.02	40.5
July 9	S.	0.10	41.7
Mean . . .		16 12 0.06	120 36 41.60
Div., Flex., etc.		. .	— 0.20

B. A. C. 5435[2].

		h. m. s.	° ′ ″
May 24	W.	16 12 1.13	120 36 59.8
June 22 (6.0)	E.	1.15	58.9
July 9	S.	1.16	59.8
Mean . . .		16 12 1.15	120 36 59.50
Div., Flex., etc.		. .	— 0.20

B. A. C. 5437.

		h. m. s.	° ′ ″
May 20	W.	16 12 1.55	94 24 5.4
Div., Flex., etc.		. .	— 0.46

B. A. C. 5451.

		h. m. s.	° ′ ″
May 24	W.	16 15 12.94	127 8 . .

LALANDE (F.) 2762.

		h. m. s.	° ′ ″
May 27 (8.3)	R.	16 15 41.28	18 46 8.8
Aug. 3	R.	41.51	7.9
Mean . . .		16 15 41.40	18 46 8.35
Div., Flex., etc.		. .	— 1.57

B. A. C. 5471.

		h. m. s.	° ′ ″
May 20	W.	16 18 6.85	121 25 44.2
Div., Flex., etc.		. .	— 0.19

B. A. C. 5506.

		h. m. s.	° ′ ″
May 24	W.	16 23 25.55	124 4 20.7
June 22	E.	25.70	19.6
Aug. 3	R.	25.65	15.7
Mean . . .		16 23 25.63	124 4 18.67
Div., Flex., etc.		. .	— 0.16

WEISSE (2) 839.

		h. m. s.	° ′ ″
May 24	W.	16 28 11.92	44 9 15.2
June 22 (9.2)	E.	12.01	16.2
Aug. 2	E.	12.04	15.5
Mean . . .		16 28 11.99	44 9 15.63
Div., Flex., etc.		. .	— 1.26

WEISSE (2) 840.

		h. m. s.	° ′ ″
May 24	W.	16 28 12.30	44 9 0.1
June 22 (7.5)	E.	12.35	0.9
Aug. 2	E.	12.35	0.1
Mean . . .		16 28 12.33	44 9 0.37
Div., Flex., etc.		. .	— 1.26

B. A. C. 5538.

		h. m. s.	° ′ ″
Aug. 3	R.	16 28 32.74	125 0 29.0
Div., Flex., etc.		. .	— 0.16

B. A. C. 5583.

		h. m. s.	° ′ ″
Aug. 3	R.	16 35 30.52	130 53 25.6
Div., Flex., etc.		. .	— 0.10

B. A. C. 5584.

		h. m. s.	° ′ ″
Aug. 3	R.	16 35 38.68	130 53 4.8
Div., Flex., etc.		. .	— 0.10

B. A. C. 5604.

		h. m. s.	° ′ ″
July 1	S.	16 36 . .	58 10 53.4
Oct. 27	W.	47.97	52.2
Mean . . .		16 36 47.97	58 10 52.80
Div., Flex., etc.		. .	— 0.34

B. A. C. 5604 (Ref.).

		h. m. s.	° ′ ″
July 1	S.	. .	58 10 52.1
Div., Flex., etc.		. .	+ 0.40

B. A. C. 5629.

		h. m. s.	° ′ ″
May 24	W.	16 40 32.61	34 5 29.7
Div., Flex., etc.		. .	— 1.36

B. A. C. 5638.

		h. m. s.	° ′ ″
Aug. 5	E.	16 43 48.75	127 50 29.7
Div., Flex., etc.		. .	— 0.19

B. A. C. 5640.

		h. m. s.	° ′ ″
Aug. 5	E.	16 44 16.70	127 48 47.6
Div., Flex., etc.		. .	— 0.19

B. A. C. 5669.

		h. m. s.	° ′ ″
July 1	S.	16 46 59.12	121 59 29.5
Div., Flex., etc.		. .	— 0.18

B. A. C. 5671.

		h. m. s.	° ′ ″
Aug. 2	E.	16 47 0.44	120 23 25.4
3	R.	. .	25.4
Mean . . .		16 47 0.44	120 23 25.40
Div., Flex., etc.		. .	— 0.21

B. A. C. 5694.

		h. m. s.	° ′ ″
July 14 (7.4)	R.	16 49 16.25	122 8 44.9
Div., Flex., etc.		. .	— 0.18

WEISSE 958.

		h. m. s.	° ′ ″
Aug. 3	R.	16 52 2.23	94 9 27.1
Div., Flex., etc.		. .	— 0.46

B. A. C. 5731.

		h. m. s.	° ′ ″
May 20	W.	16 55 . .	58 53 52.0
June 22	E.	. .	52.5
July 9	S.	. .	51.9
Oct. 15	W.	44.14	53.2
27	W.	44.22	52.1
Mean . . .		16 55 44.18	58 53 52.34
Div., Flex., etc.		. .	— 0.36

B. A. C. 5731 (Ref.).

		h. m. s.	° ′ ″
May 20	W.	. .	58 53 51.2
June 22	E.	. .	51.3
July 9	S.	. .	51.0
Mean . . .		. .	58 53 51.17
Div., Flex., etc.		. .	+ 0.41

WEISSE (2) 1688.

		h. m. s.	° ′ ″
June 18	E.	16 55 56.76	67 11 31.4
Div., Flex., etc.		. .	— 0.57

O. ARG. N. 16802[1]..

		h. m. s.	° ′ ″
Aug. 2	E.	17 1 42.02	30 15 32.5
Div., Flex., etc.		. .	— 1.39

O. ARG. N. 16802[2].

		h. m. s.	° ′ ″
Aug. 2	E.	17 1 43.31	30 15 25.3
Div., Flex., etc.		. .	— 1.39

B. A. C. 5781.

		h. m. s.	° ′ ″
June 18	E.	17 3 33.30	105 34 36.0
Div., Flex., etc.		. .	— 0.46

WEISSE (2) 114.

		h. m. s.	° ′ ″
June 28 (6.3)	R.	17 5 41.87	49 4 24.9
July 14 (5.8)	R.	41.81	25.7
Aug. 5	E.	41.89	25.1
Mean . . .		17 5 41.86	49 4 25.23
Div., Flex., etc.		. .	— 1.02

ANONYMOUS.

		h. m. s.	° ′ ″
June 18 (10.0)	E.	17 6 24.95	113 21 28.0
Div., Flex., etc.		. .	— 0.46

B. A. C. 5823.

		h. m. s.	° ′ ″
Oct. 15	W.	17 8 26.92	24 8 22.3
27	W.	27.03	20.2
Mean . . .		17 8 26.98	24 8 21.25
Div., Flex., etc.		. .	— 1.56

B. A. C. 5817.

		h. m. s.	° ′ ″
Aug. 3	R.	17 9 19.22	122 31 36.0
Div., Flex., etc.		. .	— 0.17

B. A. C. 5824.

		h. m. s.	° ′ ″
Aug. 3	R.	17 10 35.49	122 25 20.2
Div., Flex., etc.		. .	— 0.18

B. A. C. 5833.

		h. m. s.	° ′ ″
July 14 (7.0)	R.	17 11 36.20	121 13 57.0
Aug. 12	W.	36.21	58.6
23	R.	36.15	54.3
Mean . . .		17 11 36.19	121 13 56.63
Div., Flex., etc.		. .	— 0.20

ANONYMOUS.

		h. m. s.	° ′ ″
June 18 (11.0)	E.	17 11 55.60	113 24 35.3
Aug. 2	E.	55.70	31.9
Mean . . .		17 11 55.65	113 24 33.60
Div., Flex., etc.		. .	— 0.46

WEISSE (2) 405.

		h. m. s.	° ′ ″
June 22	E.	17 15 18.88	64 20 26.8
July 14 (6.7)	R.	18.81	26.2
Mean . . .		17 15 18.84	64 20 26.50
Div., Flex., etc.		. .	— 0.52

ANONYMOUS.

		h. m. s.	° ′ ″
Aug. 2	E.	17 15 58.41	113 6 27.7
15 (10.5)	R.	58.34	28.7
Mean . . .		17 15 58.38	113 6 28.20
Div., Flex., etc.		. .	— 0.47

XVII, 4.

		h. m. s.	° ′ ″
June 18	E.	17 16 14.54	124 40 40.5
Div., Flex., etc.		. .	— 0.16

LACAILLE 7268.

		h. m. s.	° ′ ″
June 18	E.	17 17 8.75	124 35 1.6
Div., Flex., etc.		. .	— 0.16

B. A. C. 5887.

		h. m. s.	° ′ ″
Aug. 8	W.	17 18 4.43	18 5 4.8
23	R.	4.24	4.8
Mean . . .		17 18 4.34	18 5 4.80
Div., Flex., etc.		. .	— 1.55

B. A. C. 5893.

		h. m. s.	° ′ ″
May 24	W.	17 21 . .	85 45 19.4
Div., Flex., etc.		. .	— 0.72

B. A. C. 5893 (Ref.).

		h. m. s.	° ′ ″
May 24	W.	. .	85 45 18.5
Div., Flex., etc.		. .	+ 0.60

ANONYMOUS.

		h. m. s.	° ′ ″
July 14 (9.3)	R.	17 22 54.42	113 56 27.3
Aug. 2	E.	54.31	. .
3	R.	54.41	28.7
Mean . . .		17 22 54.38	113 56 28.00
Div., Flex., etc.		. .	— 0.43

ANONYMOUS.

		h. m. s.	° ′ ″
June 18	E.	17 23 29.20	92 59 22.3
Div., Flex., etc.		. .	— 0.45

D. M. — 0°, 3298.

		h. m. s.	° ′ ″
Aug. 12	W.	17 23 56.81	90 56 33.8
20 (7.5)	W.	56.82	35.8
Mean . . .		17 23 56.82	90 56 34.80
Div., Flex., etc.		. .	— 0.48

B. A. C. 5910.

		h. m. s.	° ′ ″
Aug. 8	W.	17 24 16.19	90 57 47.2
12	W.	16.23	. .
15	R.	16.27	46.7
20	W.	16.26	49.4
Mean . . .		17 24 16.24	90 57 47.77
Div., Flex., etc.		. .	— 0.48

B. A. C. 5938.

		h. m. s.	° ′ ″
July 18	R.	17 29 13.84	122 2 59.4
Aug. 2	E.	13.89	3 0.7
Mean . . .		17 29 13.86	122 3 0.05
Div., Flex., etc.		. .	— 0.18

B. A. C. 5950.

		h. m. s.	° ′ ″
Aug. 5	E.	17 29 50.18	34 44 4.0
12	W.	. . .	5.2
15	R.	50.17	1.7
Mean . . .		17 29 50.18	34 44 3.63
Div., Flex., etc.		. .	— 1.35

B. A. C. 5951.

		h. m. s.	° ′ ″
Aug. 5	E.	17 29 55.40	34 44 45.8
12	W.	55.35	45.5
15	R.	55.52	44.2
Mean . . .		17 29 55.42	34 44 45.17
Div., Flex., etc.		. .	— 1.35

B. A. C. 5957.

		h. m. s.	° ′ ″
June 28	R.	17 31 52.15	122 15 0.6
July 14	R.	52.01	15 1.2
Aug. 23	R.	52.06	14 59.2
Mean . . .		17 31 52.07	122 15 0.33
Div., Flex., etc.		. .	— 0.18

B. A. C. 5960.

		h. m. s.	° ′ ″
Aug. 2	E.	17 32 15.88	122 7 57.0
3	R.	15.83	54.9
Mean . . .		17 32 15.86	122 7 55.95
Div., Flex., etc.		. .	— 0.18

STONE 9620.

		h. m. s.	° ′ ″
Aug. 2	E.	17 32 58.32	122 5 20.7
3	R.	58.40	19.3
5 (8.0)	E.	58.51	20.0
Mean . . .		17 32 58.41	122 5 20.00
Dix., Flex., etc.		. .	— 0.18

B. A. C. 5968.

		h. m. s.	° ′ ″
Aug. 3	R.	17 33 53.07	122 2 52.3
5	E.	53.26	53.0
Mean . . .		17 33 53.16	122 2 52.65
Div., Flex., etc.		. .	— 0.18

ANONYMOUS.

		h. m. s.	° ′ ″
Aug. 20 (8.5)	W.	17 34 15.21	126 52 41.8
Div., Flex., etc.		. .	— 0.19

B. A. C. 5974.

		h. m. s.	° ′ ″
Aug. 20	W.	17 34 46.32	126 53 4.0
Div., Flex., etc.		. .	— 0.19

LALANDE 32322.

		h. m. s.	° ′ ″
June 24 (6.5)	R.	17 35 36.32	52 43 30.0
July 14 (7.5)	R.	36.32	30.8
Aug. 8	W.	36.36	30.8
Mean . . .		17 35 36.33	52 43 30.53
Div., Flex., etc.		. .	— 0.67

O. ARG. S. 17137–9.

		h. m. s.	° ′ ″
June 22	E.	17 37 18.64	117 10 29.4
Aug. 15 (9.0)	R.	18.75	24.2
Mean . . .		17 37 18.70	177 10 26.80
Div., Flex., etc.		. .	— 0.28

ANONYMOUS.

		h. m. s.	° ′ ″
June 22	E.	17 37 25.05	117 12 59.2
Aug. 15 (11.0)	R.	24.88	55.5
Mean . . .		17 37 24.96	117 12 57.35
Div., Fiex., etc.		. .	— 0.28

B. A. C. 5996.

		h. m. s.	° ′ ″
Oct. 27	W.	17 37 35.71	85 22 54.5
Nov. 4	W.	35.74	55.6
Mean . . .		17 37 35.72	85 22 55.05
Div., Flex., etc.		. .	— 0.76

ANONYMOUS.

		h. m. s.	° ′ ″
Aug. 23 (8.0)	R.	17 37 40.65	118 16 16.2
27 (8.0)	R.	40.45	19.7
Mean . . .		17 37 40.55	118 16 17.95
Div., Flex., etc.		. .	— 0.25

O. ARG. S. 17166–8.

		h. m. s.	° ′ ″
June 22	E.	17 38 23.49	117 9 54.8
Aug. 15 (8.0)	R.	23.39	52.3
Mean . . .		17 38 23.44	117 9 53.55
Div., Flex., etc.		. .	— 0.29

LALANDE 32566.

		h. m. s.	° ′ ″
June 24 (6.5)	R.	17 41 30.13	36 8 54.7
Div., Flex., etc.		. .	— 1.37

B. A. C. 6017.

		h. m. s.	° ′ ″
June 18	E.	17 41 37.32	120 33 16.4
Aug. 5	E.	37.30	15.2
8	W.	37.33	15.9
Mean . . .		17 41 37.32	120 33 15.8
Div., Flex., etc.		. .	— 0.20

B. A. C. 6026[1]

		h. m. s.	° ′ ″
June 18	E.	17 43 33.00	120 31 25.9
Aug. 5 (8.5)	E.	32.94	24.4
8	W.	32.95	25.2
Mean . . .		17 43 32.96	120 31 25.17
Div., Flex., etc.		. .	— 0.20

B. A. C. 6026[2]

		h. m. s.	° ′ ″
June 18	E.	17 43 33.02	120 31 16.8
Aug. 5 (7.0)	E.	33.12	14.9
8	W.	32.98	14.8
Mean . . .		17 43 33.04	120 31 15.50
Div., Flex., etc.		. .	— 0.20

B. A. C. 6029.

		h. m. s.	° ′ ″
July 5	S.	17 44 17.60	124 45 55.8
14 (6.4)	R.	17.65	54.5
Mean . . .		17 44 17.62	124 45 55.15
Div., Flex., etc.		. .	— 0.16

O. ARG. N. 17522.

		h. m. s.	° ′ ″
July 18 (7.0)	R.	17 44 47.65	42 22 35.1
Div., Flex., etc.		. .	— 1.29

B. A. C. 6037.

		h. m. s.	° ′ ″
July 5	S.	17 45 23.77	124 42 0.5
14 (6.2)	R.	23.81	1.0
Mean . . .		17 45 23.79	124 42 0.75
Div., Flex., etc.		. .	— 0.16

B. A. C. 6038.

		h. m. s.	° ′ ″
Aug. 2	E.	17 45 27.05	124 51 52.9
Div., Flex., etc.		. .	— 0.16

B. A. C. 6042[1].

		h. m. s.	° ′ ″
June 22	E.	17 45 48.04	124 45 55.5
Div., Flex., etc.		. .	— 0.16

B. A. C. 6042[2].

		h. m. s.	° ′ ″
June 22	E.	17 45 49.64	124 45 25.4
Aug. 2	E.	49.49	24.5
Mean . . .		17 45 49.56	124 45 24.95
Div., Flex., etc.		. .	— 0.16

B. A. C. 6045.

		h. m. s.	° ′ ″
Aug. 2	E.	17 46 25.78	124 51 1.7
Div., Flex., etc.		. .	— 0.16

LALANDE 32707.

		h. m. s.	° ′ ″
Aug. 20	W.	17 47 26.49	83 52 25.5
Div., Flex., etc.		. .	— 0.83

WEISSE (2) 1591.

		h. m. s.	° ′ ″
May 24	W.	17 50 50.78	67 31 3.7
Aug. 23	R.	50.81	30 59.4
25	E.	50.70	31 1.9
Mean . . .		17 50 50.76	67 31 1.67
Div., Flex., etc.		. .	— 0.58

B. A. C. 6074[1].

		h. m. s.	° ′ ″
July 5	S.	17 51 26.86	120 14 21.4
Aug. 2	E.	26.71	22.7
5	E.	26.93	. .
Mean . . .		17 51 26.83	120 14 22.05
Div., Flex., etc.		. .	— 0.21

B. A. C. 6074[2].

		h. m. s.	° ′ ″
July 5	S.	17 51 27.28	120 14 22.6
Aug. 2	E.	27.20	24.3
5	E.	27.17	. .
Mean . . .		17 51 27.22	120 14 23.45
Div., Flex., etc.		. .	— 0.21

LACAILLE 7520.

		h. m. s.	° ′ ″
Aug. 15	R.	17 52 3.14	129 14 6.2
27	R.	3.26	6.0
Mean . . .		17 52 3.20	129 14 6.10
Div., Flex., etc.		. .	— 0.16

B. A. C. 6082.

		h. m. s.	° ′ ″
Oct. 27	W.	17 52 10.40	52 43 58.0
Nov. 4	W.	10.39	44 0.7
Mean . . .		17 52 10.40	52 43 59.35
Div., Flex., etc.		. .	— 0.67

WEISSE (2) 1719.

		h. m. s.	° ′ ″
July 18 (6.8)	R.	17 54 33.32	53 42 3.2
Aug. 3 (6.2)	R.	33.11	4.4
8	W.	33.25	4.5
Mean . . .		17 54 33.23	53 42 4.03
Div., Flex., etc.		. .	— 0.60

WEISSE (2) 1764.

		h. m. s.	° ′ ″
Aug. 5	E.	17 56 14.79	56 46 53.9
20	W.	14.73	53.5
25	E.	14.75	53.5
29	E.	14.87	52.0
Mean . . .		17 56 14.78	56 46 53.22
Div., Flex., etc.		. .	— 0.34

B. A. C. 6103.

		h. m. s.	° ′ ″
July 14	R.	17 56 49.73	125 54 11.4
Aug. 27	R.	49.67	11.3
Mean . . .		17 56 49.70	125 54 11.35
Div., Flex., etc.		. .	— 0.17

WEISSE (2) 1797.

		h. m. s.	° ′ ″
Aug. 5	E.	17 57 14.44	56 41 17.0
20	W.	14.38	19.5
25	E.	14.39	19.6
29	E.	14.34	17.2
Mean . . .		17 57 14.39	56 41 18.32
Div., Flex., etc.		. .	— 0.35

B. A. C. 6117.

		h. m. s.	° ′ ″
July 14	R.	17 58 21.44	126 1 37.1
Aug. 27	R.	21.30	37.5
Mean . . .		17 58 21.37	126 1 37.30
Div., Flex., etc.		. .	— 0.17

B. A. C. 6131.

		h. m. s.	° ′ ″
Aug. 2	E.	18 1 17.22	121 10 27.1
Div., Flex., etc.		. .	— 0.20

WEISSE (2) 1941.

		h. m. s.	° ′ ″
July 10 (6.8)	R.	18 1 23.88	57 46 44.9
Div., Flex., etc.		. .	— 0.33

B. A. C. 6150.

		h. m. s.	° ′ ″
Nov. 17	E.	18 2 54.06	61 16 12.0
Div., Flex., etc.		. .	— 0.51

14 SAGITTARII.

		h. m. s.	° ′ ″
June 12	R.	18 7 7.06	111 44 35.3
Div., Flex., etc.		. .	— 0.50

B. A. C. 6193.

		h. m. s.	° ′ ″
June 24 (7.0)	R.	18 9 6.58	51 15 35.1
Div., Flex., etc.		. .	— 0.82

ANONYMOUS.

		h. m. s.	° ′ ″
July 10 (9.2)	R.	18 13 35.85	106 14 57.5
Div., Flex., etc.		. .	— 0.45

ANONYMOUS.

		h. m. s.	° ′ ″
July 10 (9.5)	R.	18 13 43.73	106 13 48.6
Div., Flex., etc.		. .	— 0.45

B. A. C. 6252.

		h. m. s.	° ′ ″
Aug. 12	W.	18 18 8.07	40 19 57.2
Div., Flex., etc.		. .	— 1.34

B. A. C. 6251.

		h. m. s.	° ′ ″
Aug. 23	R.	18 18 37.60	68 17 1.0
Div., Flex., etc.		. .	— 0.60

B. A. C. 6256.

		h. m. s.	° ′ ″
June 24 (7.0)	R.	18 19 52.75	121 35 59.4
Aug. 27 (7.5)	R.	52.76	59.2
Mean . . .		18 19 52.76	121 35 59.30
Div., Flex., etc.		. .	— 0.19

ANONYMOUS.

		h. m. s.	° ′ ″
June 18	E.	18 20 20.52	121 38 14.2
24 (8.5)	R.	20.53	14.6
Aug. 27 (9.0)	R.	20.48	13.0
Mean . . .		18 20 20.51	121 38 3.93
Div., Flex., etc.		. .	— 0.19

O. ARG. S. 18261.

		h. m. s.	° ′ ″
July 10 (8.7)	R.	18 21 32.40	116 40 0.1
Aug. 15 (8.5)	R.	32.43	39 59.4
23	R.	32.34	39 57.7
Mean . . .		18 21 32.39	116 39 59.07
Div., Flex., etc.		. .	— 0.30

O. ARG. S. 18262.

		h. m. s.	° ′ ″
July 10 (7.3)	R.	18 21 32.48	116 39 17.2
Aug. 15 (7.0)	R.	32.48	16.8
23	R.	32.55	14.5
Mean . . .		18 21 32.50	116 39 16.17
Div., Flex., etc.		. .	— 0.30

B. A. C. 6275.

		h. m. s.	° ′ ″
Aug. 25	E.	18 22 12.92	123 7 25.6
29	E.	12.85	23.7
Mean . . .		18 22 12.88	123 7 24.65
Div., Flex., etc.		. .	— 0.17

B. A. C. 6302.

		h. m. s.	° ′ ″
Aug. 3 (4.8)	R.	18 23 12.36	17 19 10.2
Div., Flex., etc.		. .	— 1.54

B. A. C. 6285.

		h. m. s.	° ′ ″
Aug. 25	E.	18 23 16.52	123 3 58.7
29	E.	16.48	58.2
Mean . . .		18 23 16.50	123 3 58.45
Div., Flex., etc.		. .	— 0.17

PIAZZI XVIII, 87.

		h. m. s.	° ′ ″
Aug. 25	E.	18 24 35.53	123 1 17.4
29	E.	35.40	16.2
Mean . . .		18 24 35.46	123 1 16.80
Div., Flex., etc.		. .	— 0.17

PIAZZI XVIII, 90.

		h. m. s.	° ′ ″
July 18 (6.8)	R.	18 25 10.53	128 48 20.7
Div., Flex., etc.		. .	— 0.17

Piazzi XVIII, 89.

		h. m. s.	° ′ ″
July 18 (5.5)	R.	18 25 10.60	128 48 39.1
Div., Flex., etc.		. .	— 0.17

B. A. C. 6305.

		h. m. s.	° ′ ″
Aug. 29	E.	18 26 9.27	123 6 10.3
Div., Flex., etc.		. .	— 0.17

B. A. C. 6308.

		h. m. s.	° ′ ″
Aug. 29	E.	18 26 16.95	123 2 53.2
Div., Flex., etc.		. .	— 0.17

B. A. C. 6317.

		h. m. s.	° ′ ″
Aug. 29	E.	18 27 38.80	122 58 57.1
Div., Flex., etc.		. .	— 0.17

Weisse (2) 794.

		h. m. s.	° ′ ″
June 24 (6.2)	R.	18 28 16.89	59 32 4.3
Aug. 12	W.	16.86	4.5
Mean . . .		18 28 16.88	59 32 4.40
Div., Flex., etc.		. .	— 0.40

B. A. C. 6336.

		h. m. s.	° ′ ″
June 12	R.	18 30 46.93	111 29 40.0
Div., Flex., etc.		. .	— 0.50

Lalande 34486.

		h. m. s.	° ′ ″
July 10 (5.0)	R.	18 30 51.99	83 25 16.2
Aug. 3	R.	51.90	15.5
Mean . . .		18 30 51.94	83 25 15.85
Div., Flex., etc.		. .	— 0.84

B. A. C. 6344.

		h. m. s.	° ′ ″
Aug. 29	E.	18 31 42.49	123 5 48.9
Div., Flex., etc.		. .	— 0.17

Anonymous.

		h. m. s.	° ′ ″
Aug. 12 (10.0)	W.	18 31 56.98	117 33 27.5
Div., Flex., etc.		. .	— 0.27

M. Z. 45, 21.

		h. m. s.	° ′ ″
Aug. 12	W.	18 33 6.54	117 38 54.0
Div., Flex., etc.		. .	— 0.27

O. Arg. S. 18537.

		h. m. s.	° ′ ″
Aug. 12	W.	18 34 20.27	117 33 17.2
Div., Flex., etc.		. .	— 0.27

B. A. C. 6359.

		h. m. s.	° ′ ″
Aug. 27	R.	18 35 37.18	128 26 8.6
Div., Flex., etc.		. .	— 0.18

O. Arg. S. 18577.

		h. m. s.	° ′ ″
June 12	R.	18 35 54.49	109 23 47.5
Div., Flex., etc.		. .	— 0.47

B. A. C. 6362.

		h. m. s.	° ′ ″
June 22	E.	18 36 21.22	125 45 28.9
Aug. 15	R.	21.19	23.4
23	R.	21.15	23.9
Mean . . .		18 36 21.19	125 45 25.40
Div., Flex., etc.		. .	— 0.17

Lalande 34853.

		h. m. s.	° ′ ″
Aug. 15	R.	18 39 23.40	58 11 18.9
Div., Flex., etc.		. .	— 0.34

B. A. C. 6378.

		h. m. s.	° ′ ″
June 18	E.	18 39 25.46	130 31 51.7
July 18 (5.7)	R.	25.29	52.6
Aug. 3	R.	25.49	51.4
Mean . . .		18 39 25.41	130 31 51.90
Div., Flex., etc.		. .	— 0.11

Lamont 77.

		h. m. s.	° ′ ″
Aug. 12	W.	18 42 51.21	118 44 31.8
Div., Flex., etc.		. .	— 0.24

B. A. C. 6422.

		h. m. s.	° ′ ″
Aug. 12	W.	18 45 40.03	117 53 57.7
Div., Flex., etc.		. .	— 0.26

B. A. C. 6470.

		h. m. s.	° ′ ″
June 24 (5.7)	R.	18 50 16.71	39 26 23.3
Aug. 27	R.	16.60	23.2
Mean . . .		18 50 16.66	39 26 23.25
Div., Flex., etc.		. .	— 1.36

B. A. C. 6459.

		h. m. s.	° ′ ″
Aug. 29	E.	18 50 42.70	121 11 26.9
Div., Flex., etc.		. .	— 0.20

Lalande 35421.

		h. m. s.	° ′ ″
July 18 (6.3)	R.	18 52 56.92	72 47 53.6
Aug. 23	R.	57.07	52.0
25	E.	57.05	55.0
Mean . . .		18 52 57.01	72 47 53.53
Div., Flex., etc.		. .	— 0.77

Lalande 35445.

		h. m. s.	° ′ ″
Aug. 16	W.	18 53 34.54	70 22 0.1
24	W.	34.55	21 59.7
Mean . . .		18 53 34.54	70 21 59.90
Div., Flex., etc.		. .	— 0.65

B. A. C. 6491.

		h. m. s.	° ′ ″
June 28	R.	18 54 . .	57 28 23.0
Nov. 28	W.	29.47	22.7
Mean . . .		18 54 29.47	57 28 22.85
Div., Flex., etc.		. .	— 0.33

B. A. C. 6491 (Ref.).

		h. m. s.	° ′ ″
June 28	R.	. .	57 28 21.7
Div., Flex., etc.		. .	+ 0.39

Lalande 35511.

		h. m. s.	° ′ ″
June 24 (5.3)	R.	18 54 54.52	63 56 1.5
Aug. 15	R.	54.50	0.5
23	R.	54.61	0.2
Mean . . .		18 54 54.54	63 56 0.73
Div., Flex., etc.		. .	— 0.53

B. A. C. 6499.

		h. m. s.	° ′ ″
Aug. 2	E.	18 56 46.64	121 13 12.5
27	R.	46.60	9.7
29	E.	46.58	10.7
Sept. 19	S.	46.58	10.6
Mean . . .		18 56 46.60	121 13 10.88
Div., Flex., etc.		. .	— 0.20

B. A. C. 6523.

		h. m. s.	° ′ ″
Aug. 26	S.	19 0 3.88	130 40 46.4
Div., Flex., etc.		. .	— 0.10

B. A. C. 6551.

		h. m. s.	° ′ ″
Aug. 29	E.	19 2 14.71	36 47 9.6
Sept. 24 (6.5)	R.	14.94	10.2
Mean . . .		19 2 14.82	36 47 9.60
Div., Flex., etc.		. .	— 1.39

Lalande 35851.

		h. m. s.	° ′ ″
June 24 (6.2)	R.	19 2 37.05	73 19 23.4
July 14 (5.8)	R.	36.97	24.3
Aug. 24	W.	37.06	23.4
Mean . . .		19 2 37.03	73 19 23.70
Div., Flex., etc.		. .	— 0.77

Lalande (F.) 3154.

		h. m. s.	° ′ ″
July 10 (7.5)	R.	19 6 40.74	7 48 14.5
Aug. 16	W.	40.52	13.0
24	W.	41.25	13.8
Mean . . .		19 6 40.84	7 48 13.77
Div., Flex., etc.		. .	— 1.35

D. M. + 21°, 3702.

		h. m. s.	° ′ ″
Aug. 25 (9.8)	E.	19 9 2.72	68 48 45.2
Div., Flex., etc.		. .	— 0.61

Lalande 36282.

		h. m. s.	° ′ ″
June 24 (5.8)	R.	19 10 47.43	59 40 52.4
28 (5.3)	R.	47.51	51.2
July 14	R.	47.42	51.7
Mean . . .		19 10 47.45	59 40 51.77
Div., Flex., etc.		. .	— 0.41

Lalande 36268².

		h. m. s.	° ′ ″
Aug. 29	E.	19 10 59.74	75 39 55.7
Div., Flex., etc.		. .	— 0.81

B. A. C. 6594.

		h. m. s.	° ′ ″
Sept. 19	S.	19 12 46.96	122 2 7.7
Div., Flex., etc.		. .	— 0.18

MER. C. Z. 129, 87.

		h. m. s.	° ′ ″
June 28 (9.2)	R.	19 13 2.15	113 36 28.3
Aug. 25 (9.5)	E.	2.27	29.6
27 (9.0)	R.	2.07	. .
Sept. 24 (9.2)	R.	2.06	29.4
Mean . . .		19 13 2.14	113 36 29.10
Div., Flex., etc.		. .	— 0.45

O. ARG. N. 19153.

		h. m. s.	° ′ ″
Oct. 10 (8.5)	R.	19 13 30.00	13 14 43.5
Div., Flex., etc.		. .	— 1.60

ANONYMOUS.

		h. m. s.	° ′ ″
July 14 (12.0)	R.	19 15 3.60	102 10 42.4
Div., Flex., etc.		. .	— 0.55

B. A. C. 6622.

		h. m. s.	° ′ ″
Aug. 29	E.	19 15 38.48	130 50 19.0
Div., Flex., etc.		. .	— 0.10

LALANDE 36489.

		h. m. s.	° ′ ″
June 24 (5.7)	R.	19 16 14.45	90 28 37.7
Aug. 3	R.	14.49	34.8
16	W.	14.40	35.8
Mean . . .		19 16 14.45	90 28 36.10
Div., Flex., etc.		. .	— 0.50

ANONYMOUS.

		h. m. s.	° ′ ″
July 10 (11.5)	R.	19 17 37.06	102 9 35.1
Div., Flex., etc.		. .	— 0.55

B. A. C. 6640.

		h. m. s.	° ′ ″
Aug. 24	W.	19 18 5.16	32 34 49.0
Div., Flex., etc.		. .	— 1.36

ANONYMOUS.

		h. m. s.	° ′ ″
Aug. 3	R.	19 21 15.05	95 26 49.5
Div., Flex., etc.		. .	— 0.43

SCHWERD 1175.

		h. m. s.	° ′ ″
Aug. 22	W.	19 21 34.13	2 52 34.4
24	W.	34.42	34.9
25	E.	33.46	32.0
26	S.	33.37	35.0
29	E.	(29.78)	33.9
Mean . . .		19 21 33.84	2 52 34.04
Div., Flex., etc.		. .	— 1.42

LALANDE 36867.

		h. m. s.	° ′ ″
June 24 (5.6)	R.	19 23 54.18	75 38 52.9
July 14	R.	54.13	53.4
Sept. 19	S.	54.16	52.9
Mean . . .		19 23 54.16	75 38 53.07
Div., Flex., etc.		. .	— 0.81

SCHWERD 1184.

		h. m. s.	° ′ ″
Aug. 27	R.	19 24 33.04	2 21 2.2
Sept. 24 (8.8)	R.	32.73	2.1
Oct. 6 (8.8)	R.	31.78	2.0
Mean . . .		19 24 32.52	2 21 2.10
Div., Flex., etc.		. .	— 1.42

B. A. C. 6690.

		h. m. s.	° ′ ″
Jan. 27	W.	19 25 55.39	62 17 21.2
Feb. 13	E.	55.21	20.2
16	W.	55.36	18.8
Mean . . .		19 25 55.32	62 17 20.07
Div., Flex., etc.		. .	— 0.56

SCHWERD 1176.

		h. m. s.	° ′ ″
Aug. 25	E.	19 26 5.63	3 27 4.3
26	S.	6.33	6.3
29	E.	4.56	5.1
Mean . . .		19 26 5.51	3 27 5.23
Div., Flex., etc.		. .	— 1.43

ANONYMOUS.

		h. m. s.	° ′ ″
Aug. 12	W.	19 30 2.37	130 0 40.5
Div., Flex., etc.		. .	— 0.13

ANONYMOUS.

		h. m. s.	° ′ ″
Oct. 10 (10.5)	R.	19 30 16.68	116 30 43.2
Div., Flex., etc.		. .	— .31

ANONYMOUS.

		h. m. s.	° ′ ″
Aug. 16	W.	19 30 48.09	116 41 48.1
Div., Flex., etc.		. .	— 0.30

ANONYMOUS.

		h. m. s.	° ′ ″
Aug. 15 (11.0)	R.	19 31 7.50	116 37 49.6
16	W.	7.62	49.5
Oct. 10 (10.0)	R.	7.29	52.5
Mean . . .		19 31 7.47	116 37 50.53
Div., Flex., etc.		. .	— 0.30

ANONYMOUS.

		h. m. s.	° ′ ″
Aug. 12 (8.5)	W.	19 31 34.42	130 0 56.1
Div., Flex., etc.		. .	— 0.13

B. A. C. 6728.

		h. m. s.	° ′ ″
Sept. 19	S.	19 32 45.25	46 33 36.4
Div., Flex., etc.		. .	— 1.19

B. A. C. 6734.

		h. m. s.	° ′ ″
Aug. 8	W.	19 33 . .	40 3 16.4
Div., Flex., etc.		. .	— 1.35

B. A. C. 6734 (Ref.).

		h. m. s.	° ′ ″
Aug. 8	W.	. .	40 3 13.0
Div., Flex., etc.		. .	+ 1.01

B. A. C. 6737.

		h. m. s.	° ′ ″
Aug. 29	E.	19 33 30.30	26 49 50.5
Oct. 26	R.	30.72	51.0
Mean . . .		19 33 30.51	26 49 50.75
Div., Flex., etc.		. .	1.45

RÜMKER 7771.

		h. m. s.	° ′ ″
Aug. 29	E.	19 33 47.47	26 46 30.6
Div., Flex., etc.		. .	— 1.45

LALANDE 37527.

		h. m. s.	° ′ ″
Aug. 15 (5.5)	R.	19 38 9.83	57 51 16.0
24	W.	9.83	17.1
Oct. 10 (6.5)	R.	9.85	13.3
26	R.	9.94	17.5
Mean . . .		19 38 9.86	57 51 15.98
Div., Flex., etc.		. .	— 0.33

Σ (P. M.) 2355[1].

		h. m. s.	° ′ ″
Aug. 12	W.	19 41 2.01	56 40 20.8
Div., Flex., etc.		. .	— 0.35

Σ (P. M.) 2355[2].

		h. m. s.	° ′ ″
Aug. 12	W.	19 41 2.19	56 40 23.1
Div., Flex., etc.		. .	— 0.35

LACAILLE 8249.

		h. m. s.	° ′ ″
Aug. 8	W.	19 45 9.81	122 16 46.1
Div., Flex., etc.		. .	— 0.18

WEISSE (2) 1501.

		h. m. s.	° ′ ″
Aug. 12	W.	19 47 1.11	65 18 47.5
21	S.	1.27	45.6
Mean . . .		19 47 1.19	65 18 46.55
Div., Flex., etc.		. .	— 0.52

O. ARG. N. 19720.

		h. m. s.	° ′ ″
Oct. 13	S.	19 48 23.85	43 16 46.3
21	S.	24.01	46.8
Mean . . .		19 48 23.93	43 16 46.55
Div., Flex., etc.		. .	— 1.27

ANONYMOUS.

		h. m. s.	° ′ ″
Aug. 8	W.	19 48 58.68	122 16 23.1
Div., Flex., etc.		. .	— 0.18

B. A. C. 6865.

		h. m. s.	° ′ ″
Aug. 11	R.	19 53 29.88	39 25 2.8
16	W.	29.94	5.0
Sept. 24	R.	29.94	2.9
Mean . . .		19 53 29.92	39 25 3.57
Div., Flex., etc.		. .	— 1.36

WEISSE (2) 1739.

		h. m. s.	° ′ ″
Oct. 10 (6.5)	R.	19 53 54.86	59 20 19.9
13	S.	54.72	17.6
Mean . . .		19 53 54.79	59 20 18.75
Div., Flex., etc.		. .	— 0.38

LALANDE 38380.

		h. m. s.	° ′ ″
Oct. 13	S.	19 58 43.83	60 25 11.9
21	S.	43.90	12.6
25 (7.0)	S.	43.87	13.3
Mean . . .		19 58 43.87	60 25 12.60
Div., Flex., etc.		. .	— 0.46

Anonymous.

		h. m. s.	° ′ ″
July 18 (10.5)	R.	19 59 19.46	101 47 18.8
Div., Flex., etc.		. .	— 0.54

Weisse (2) 1957.

		h. m. s.	° ′ ″
Oct. 17	S.	19 59 56.22	58 7 5.9
21	S.	56.17	6.9
25 (6.0)	S.	56.19	6.0
Mean . . .		19 59 56.19	58 7 6.27
Div., Flex., etc.		. .	— 0.33

Lalande 38415.

		h. m. s.	° ′ ″
Aug. 27 (6.7)	R.	19 59 57.99	74 50 20.4
Oct. 10	R.	58.06	21.2
22	R.	58.00	21.4
Mean . . .		19 59 58.02	74 50 21.00
Div., Flex., etc.		. .	— 0.79

B. A. C. 6905.

		h. m. s.	° ′ ″
June 29	W.	20 0 . .	25 30 45.3
Div., Flex., etc.		. .	— 1.49

B. A. C. 6905 (Ref.).

		h. m. s.	° ′ ″
June 29	W.	. .	25 30 41.8
Div., Flex., etc.		. .	+ 1.44

Lalande 38554.

		h. m. s.	° ′ ″
July 15	W.	20 2 57.75	79 37 15.3
16	E.	57.85	13.6
Aug. 8	W.	57.80	12.8
Mean . . .		20 2 57.80	79 37 13.90
Div., Flex., etc.		. .	— 0.79

Lalande 38591.

		h. m. s.	° ′ ″
Aug. 12	W.	20 3 8.10	55 55 21.2
29	E.	8.17	19.4
Oct. 6	R.	8.09	19.2
Mean . . .		20 3 8.12	55 55 19.93
Div., Flex., etc.		. .	— 0.41

B. A. C. 6922.

		h. m. s.	° ′ ″
Oct. 13	S.	20 3 22.71	126 23 56.6
26	R.	22.93	56.1
Mean . . .		20 3 22.82	126 23 56.35
Div., Flex., etc.		. .	— 0.18

B. A. C. 6939.

		h. m. s.	° ′ ″
Aug. 15	R.	20 4 22.29	22 18 56.1
27 (6.0)	R.	22.43	59.0
Sept. 24	R.	22.61	57.8
Mean . . .		20 4 22.44	22 18 57.63
Div., Flex., etc.		. .	— 1.62

B. A. C. 6977.

		h. m. s.	° ′ ″
July 15	W.	20 12 2.22	119 59 40.3
Aug. 11	R.	2.01	39.1
Sept. 20	R.	2.16	38.6
Mean . . .		20 12 2.13	119 59 39.33
Div., Flex., etc.		. .	— 0.21

Weisse 302.

		h. m. s.	° ′ ″
July 16	E.	20 13 54.13	77 9 19.4
19	W.	54.16	19.8
Aug. 11	R.	54.05	18.4
Mean . . .		20 13 54.11	77 9 19.20
Div., Flex., etc.		. .	— 0.84

B. A. C. 7184.

		h. m. s.	° ′ ″
Aug. 15 (8.5)	R.	20 15 5.99	1 13 50.5
Div., Flex., etc.		. .	— 1.43

B. A. C. 7025.

		h. m. s.	° ′ ″
Aug. 26	E.	20 19 10.32	127 47 12.8
27	R.	10.42	13.4
Sept. 20	R.	10.46	9.8
Mean . . .		20 19 10.40	127 47 12.00
Div., Flex., etc.		. .	— 0.19

Weisse (2) 665.

		h. m. s.	° ′ ″
Oct. 1	S.	20 19 17.23	52 54 26.2
10 (7.2)	R.	17.35	28.2
13	S.	17.18	25.9
Mean . . .		20 19 17.25	52 54 26.77
Div., Flex., etc.		. .	— 0.66

Lalande 39329.

		h. m. s.	° ′ ″
Aug. 11	R.	20 20 24.81	68 58 38.9
15	R.	24.77	38.9
24	W.	24.90	39.5
Mean . . .		20 20 24.83	68 58 39.10
Div., Flex., etc.		. .	— 0.62

B. A. C. 7036.

		h. m. s.	° ′ ″
Oct. 1	S.	20 21 8.53	125 59 14.9
11	W.	8.48	14.6
17	S.	8.58	15.5
Mean . . .		20 21 8.53	125 59 15.00
Div., Flex., etc.		. .	— 0.17

B. A. C. 7051.

		h. m. s.	° ′ ″
Oct. 13 (7.5)	S.	20 21 29.62	28 7 4.9
20 (8.5)	E.	29.88	8.3
22 (8.5)	R.	29.67	8.6
Mean . . .		20 21 29.72	28 7 7.27
Div., Flex., etc.		. .	— 1.42

B. A. C. 7048.

		h. m. s.	° ′ ″
Sept. 19	S.	20 21 46.75	49 59 17.1
Oct. 21	S.	46.93	17.6
25	S.	46.86	17.0
Mean . . .		20 21 46.85	49 59 17.23
Div., Flex., etc.		. .	— 0.96

B. A. C. 7060.

		h. m. s.	° ′ ″
July 15	W.	20 22 37.03	30 47 22.4
19	W.	37.09	22.8
Aug. 27	R.	37.05	20.7
Mean . . .		20 22 37.06	30 47 21.97
Div., Flex., etc.		. .	— 1.37

B. A. C. 7105.

		h. m. s.	° ′ ″
July 19	W.	20 28 52.14	33 37 29.5
Aug. 12	W.	51.95	28.8
15	R.	52.00	27.3
Mean . . .		20 28 52.03	33 37 28.53
Div., Flex., etc.		. .	— 1.36

B. A. C. 7143.

		h. m. s.	° ′ ″
Aug. 26	S.	20 33 20.88	66 18 3.8
Sept. 24	R.	20.86	5.4
Mean . . .		20 33 20.87	66 18 4.60
Div., Flex., etc.		. .	— 0.55

B. A. C. 7153.

		h. m. s.	° ′ ″
Aug. 3 (6.5)	R.	20 33 50.09	37 26 33.3
11	R.	50.00	33.3
15	R.	50.01	32.9
Mean . . .		20 33 50.03	37 26 33.17
Div., Flex., etc.		. .	— 1.40

B. A. C. 7149.

		h. m. s.	° ′ ″
Aug. 29	E.	20 34 . .	74 30 26.7
Sept. 19	S.	. .	27.3
Oct. 17	S.	. .	28.1
Mean . . .		. .	74 30 27.37
Div., Flex., etc.		. .	— 0.79

B. A. C. 7149 (Ref.).

		h. m. s.	° ′ ″
Aug. 29	E.	. .	74 30 24.6
Sept. 19	S.	. .	25.0
Oct. 17	S.	. .	26.6
Mean . . .		. .	74 30 25.40
Div., Flex., etc.		. .	+ 0.51

Lalande 39951.

		h. m. s.	° ′ ″
Aug. 27 (6.5)	R.	20 34 59.56	66 29 29.1
Div., Flex., etc.		. .	— 0.55

Weisse (2) 1193.

		h. m. s.	° ′ ″
Aug. 25	E.	20 35 53.67	46 57 39.3
26	S.	53.67	38.7
Sept. 30 (6.7)	R.	53.59	40.5
Mean . . .		20 35 53.64	46 57 39.50
Div., Flex., etc.		. .	— 1.16

B. A. C. 7166.

		h. m. s.	° ′ ″
Oct. 1	S.	20 35 55.47	34 24 51.2
5	S.	55.48	50.8
10 (6.3)	R.	55.60	52.9
Mean . . .		20 35 55.52	34 24 51.63
Div., Flex., etc.		. .	— 1.36

γ^1 Delphini.

		h. m. s.	° ′ ″
Oct. 11	W.	20 41 7.45	74 18 14.2
Div., Flex., etc.		. .	— 0.78

γ^2 Delphini.

		h. m. s.	° ′ ″
Oct. 11	W.	20 41 8.16	74 18 14.9
Div., Flex., etc.		. .	— 0.78

B. A. C. 7220.

		h. m. s.	° ′ ″
9	W.	20 42 52.07	28 37 25.6
Flex., etc.		. .	— 1.41

B. A. C. 7220 (Ref.).

		h. m. s.	° ′ ″
9	W.	. .	28 37 21.2
Flex., etc.		. .	+ 1.34

B. A. C. 7219.

		h. m. s.	° ′ ″
6	E.	20 43 16.05	44 51 27.0
1	R.	16.02	26.3
. . .		20 43 16.04	44 51 26.65
Flex., etc.		. .	— 1.24

B. A. C. 7212.

		h. m. s.	° ′ ″
6	S.	20 43 22.07	128 21 17.9
7	R.	22.15	14.8
4	R.	22.07	18.1
. . .		20 43 22.10	128 21 16.93
Flex., etc.		. .	— 0.18

O. Arg. N. 21126.*

		h. m. s.	° ′ ″
1 (6.5)	S.	20 43 54.20	42 36 24.5
5 (5.7)	S.	54.29	23.9
0 (4.5)	R.	54.25	26.6
2 (4.5)	R.	54.24	26.1
. . .		20 43 54.24	42 36 25.28
Flex., etc.		. .	— 1.28

is star perhaps variable. See H. P. 3657 Arg. N. 21126.

B. A. C. 7226.

		h. m. s.	° ′ ″
7	S.	20 44 35.29	123 37 19.8
0	E.	35.29	19.3
1	S.	35.12	20.3
. . .		20 44 35.23	123 37 19.80
Flex., etc.		. .	— 0.16

O. Arg. N. 21161[1] (S.).

		h. m. s.	° ′ ″
1	W.	20 45 7.37	38 31 52.0
1	S.	7.28	53.4
2 (6.2)	R.	7.17	54.4
5 (8.0)	S.	7.19	52.5
. . .		20 45 7.25	38 31 53.08
Flex., etc.		. .	— 1.39

O. Arg. N. 21161[2] (N.).

		h. m. s.	° ′ ″
2 (8.0)	R.	20 45 7.51	38 31 53.0
5 (9.5)	S.	7.52	52.4
. . .		20 45 7.52	38 31 52.70
Flex., etc.		. .	— 1.39

B. A. C. 7234.

		h. m. s.	° ′ ″
7	R.	20 45 55.61	130 15 14.6
Flex., etc.		. .	— 0.12

Weisse (2) 1483.

		h. m. s.	° ′ ″
6	E.	20 47 1.82	72 25 11.6
4	W.	1.85	12.1
4 (6.7)	R.	1.90	11.5
. . .		20 47 1.86	72 25 11.73
Flex., etc.		. .	— 0.76

B. A. C. 7256.

		h. m. s.	° ′ ″
Oct. 8	R.	20 49 . .	62 23 41.3
Div., Flex., etc.		. .	— 0.56

B. A. C. 7256 (Ref.).

		h. m. s.	° ′ ″
Oct. 8	R.	. .	62 23 40.0
Div., Flex., etc.		. .	+ 0.47

Taylor 9666.

		h. m. s.	° ′ ″
Oct. 13	S.	20 49 47.24	134 33 13.8
17	S.	47.34	13.2
20	E.	47.32	15.2
Mean . . .		20 49 47.30	134 33 14.07
Div., Flex., etc.		. .	— 0.02

B. A. C. 7280.

		h. m. s.	° ′ ″
July 16	E.	20 53 59.52	122 43 20.0
Sept. 24	R.	59.54	17.1
Oct. 10	R.	59.44	21.2
Mean . . .		20 53 59.50	122 43 19.43
Div., Flex., etc.		. .	— 0.17

B. A. C. 7286.

		h. m. s.	° ′ ″
July 15	W.	20 54 49.15	128 59 32.8
Aug. 25	E.	49.26	31.6
26	S.	49.01	29.1
27	R.	49.17	29.2
Mean . . .		20 54 49.15	128 59 30.68
Div., Flex., etc.		. .	— 0.17

Lalande 40682.

		h. m. s.	° ′ ″
Aug. 24	W.	20 55 1.36	71 7 57.1
29	E.	1.37	58.2
Mean . . .		20 55 1.36	71 7 57.65
Div., Flex., etc.		. .	— 0.70

B. A. C. 7292.

		h. m. s.	° ′ ″
Aug. 25	E.	20 55 21.61	129 5 42.8
26	S.	21.53	43.3
27	R.	21.58	41.6
Mean . . .		20 55 21.57	129 5 42.57
Div., Flex., etc.		. .	— 0.17

Lalande 40951.

		h. m. s.	° ′ ″
July 15	W.	21 1 30.67	59 17 . .
16	E.	30.77	32.6
Aug. 3	R.	30.65	31.3
11	R.	30.64	32.1
Mean . . .		21 1 30.68	59 17 32.00
Div., Flex., etc.		. .	— 0.38

61[2] Cygni.

		h. m. s.	° ′ ″
July 10	R.	21 1 35.52	51 50 15.5
Aug. 8	W.	35.58	15.3
Oct. 20	E.	35.60	14.8
21	S.	35.61	14.1
Mean . . .		21 1 35.58	51 50 14.92
Div., Flex., etc.		. .	— 0.74

B. A. C. 7353.

		h. m. s.	° ′ ″
July 15	W.	21 5 26.11	129 54 29.4
Aug. 27	R.	26.00	27.5
Sept. 20	R.	26.13	28.3
Mean . . .		21 5 26.08	129 54 28.40
Div., Flex., etc.		. .	— 0.13

Lacaille 8760.*

		h. m. s.	° ′ ″
Aug. 15 (5.0)	R.	21 10 17.07	129 19 34.4
26	S.	16.98	35.4
27	R.	17.14	32.0
Sept. 20	R.	16.98	32.8
Mean . . .		21 10 17.04	129 19 33.65
Div., Flex., etc.		. .	— 0.16

*This star has a proper motion of about $-0^s.28$ in R. A. and $+1''.2$ in N. P. D.

Anonymous. (?)*

		h. m. s.	° ′ ″
Aug. 27	R.	21 14 57.35	112 13 26.2
Div., Flex., etc.		. .	— 0.50

*Observed for Semele.

Anonymous.

		h. m. s.	° ′ ″
Aug. 23 (12.5)	R.	21 18 25.72	112 2 43.5
Div., Flex., etc.		. .	— 0.50

B. A. C. 7398.

		h. m. s.	° ′ ″
Oct. 11	W.	21 12 44.62	51 6 12.7
Div., Flex., etc.		. .	— 0.84

Bonn VI + 79°, 699.

		h. m. s.	° ′ ″
Aug. 8	W.	21 15 55.21	10 9 15.1
11	R.	55.17	16.8
Sept. 20 (8.0)	R.	55.35	16.2
Mean . . .		21 15 55.24	10 9 16.03
Div., Flex., etc.		. .	— 1.47

Σ (P. M.) 2603 (med.).*

		h. m. s.	° ′ ″
Aug. 8	W.	21 22 2.84	10 9 31.7
11	R.	2.81	32.5
15	R.	3.02	31.6
24	W.	3.31	30.6
Sept. 20	R.	3.16	31.5
Mean . . .		21 22 3.03	10 9 31.58
Div., Flex., etc.		. .	— 1.47

*This is a close double, distance $1''.6$, (Σ 2801), components about 7.5 and 8 mag. As the observers did not see it double, no doubt the mean was observed.

O. Arg. N. 22275.

		h. m. s.	° ′ ″
Aug. 27 (5.7)	R.	21 22 38.02	41 40 58.1
Sept. 24	R.	38.22	55.6
Oct. 5	S.	38.17	56.3
Mean . . .		21 22 38.14	41 40 56.67
Div., Flex., etc.		. .	— 1.30

Weisse (2) 536.

		h. m. s.	° ′ ″
Sept. 29	S.	21 23 33.46	68 20 24.8
Oct. 10	R.	33.54	25.7
11	W.	33.50	22.6
Mean . . .		21 23 33.50	68 20 24.37
Div., Flex., etc.		. .	— 0.60

B. A. C. 7477.

		h. m. s.	° ′ ″
Oct. 13	S.	21 24 44.46	46 10 57.4
17 (7.0)	S.	44.47	11 0.1
Mean . . .		21 24 44.46	46 10 58.75
Div., Flex., etc.		. .	— 1.22

B. A. C. 7475.

		h. m. s.	° ′ ″
Oct. 20	E.	21 25 2.73	124 28 5.4
21	S.	2.56	5.1
22 (6.7)	R.	2.65	5.5
25	S.	2.53	4.9
Mean . . .		21 25 2.62	124 28 5.22
Div., Flex., etc.		. .	— 0.16

WEISSE 557.

		h. m. s.	° ′ ″
Oct. 26 (6.0)	R.	21 25 24.33	78 23 6.6
Nov. 14	S.	24.32	7.0
15 (6.8)	R.	24.30	5.3
Mean . . .		21 25 24.32	78 23 6.30
Div., Flex., etc.		. .	— 0.82

B. A. C. 7489.

		h. m. s.	° ′ ″
Oct. 13	S.	21 27 27.54	37 54 19.0
17	S.	27.60	19.8
20	E.	27.67	19.8
22 (6.3)	R.	27.64	20.2
Mean . . .		21 27 27.61	37 54 19.70
Div., Flex., etc.		. .	— 1.40

GROOMBRIDGE 3511.

		h. m. s.	° ′ ″
Sept. 24	R.	21 28 17.57	9 59 42.3
Oct. 10	R.	17.21	42.3
11	W.	18.47	40.1
Mean . . .		21 28 17.75	9 59 41.57
Div., Flex., etc.		. .	— 1.46

O. ARG. N. 22436.

		h. m. s.	° ′ ″
July 18 (5.8)	R.	21 28 44.45	40 33 2.0
23	W.	44.36	0.5
Aug. 27 (6.2)	R.	44.35	1.1
Mean . . .		21 28 44.39	40 33 1.20
Div., Flex., etc.		. .	— 1.33

B. A. C. 7621.

		h. m. s.	° ′ ″
July 19	W.	21 46 23.03	23 45 44.3
23	W.	22.69	41.0
Sept. 20	R.	22.72	41.5
Mean . . .		21 46 22.81	23 45 42.27
Div., Flex., etc.		. .	— 1.58

SCHWERD 1292.

		h. m. s.	° ′ ″
Aug. 23 (9.3)	R.	21 48 37.99	3 59 48.9
24	W.	40.90	49.0
27 (9.1)	R.	39.62	49.2
Mean . . .		21 48 39.50	3 59 49.03
Div., Flex., etc.		. .	— 1.44

SCHWERD 1294.

		h. m. s.	° ′ ″
Aug. 26	S.	21 49 15.00	3 32 28.4
Sept. 20 (8.8)	R.	14.77	28.4
24 (8.9)	R.	13.62	28.4
Mean . . .		21 49 14.46	3 32 28.40
Div., Flex., etc.		. .	— 1.43

B. A. C. 7635.

		h. m. s.	° ′ ″
July 23	W.	21 49 51.12	128 18 42.3
Aug. 11 (5.3)	R.	51.06	40.4
Mean . . .		21 49 51.09	128 18 41.35
Div., Flex., etc.		. .	— 0.18

B. A. C. 7643.

		h. m. s.	° ′ ″
Sept. 19	S.	21 50 . .	33 57 9.2
Oct. 1	S.	. .	9.1
11	W.	. .	7.7
25	S.	. .	9.7
Nov. 14	S.	. .	9.6
Mean . . .		. .	33 57 9.06
Div., Flex., etc.		. .	— 1.36

B. A. C. 7643 (Ref.).

		h. m. s.	° ′ ″
Sept. 19	S.	. .	33 57 7.0
Oct. 1	S.	. .	7.1
11	W.	. .	7.3
25	S.	. .	6.8
Nov. 14	S.	. .	6.9
Mean . . .		. .	33 57 7.02
Div., Flex., etc.		. .	+ 1.11

B. A. C. 7647.

		h. m. s.	° ′ ″
Sept. 29	S.	21 52 6.13	128 57 48.3
Oct. 5	S.	6.08	45.7
Mean . . .		21 52 6.10	128 57 47.00
Div., Flex., etc.		. .	— 0.17

B. A. C. 7702.

		h. m. s.	° ′ ″
Aug. 11	R.	22 1 27.92	124 37 . .
Sept. 19	S.	28.08	23.0
20	R.	27.95	24.1
24 (5.7)	R.	27.90	23.8
Mean . . .		22 1 27.96	124 37 23.63
Div., Flex., etc.		. .	— 0.16

SCHWERD 1302.

		h. m. s.	° ′ ″
Aug. 20	W.	22 2 43.52	2 46 35.9
23 (9.0)	R.	37.94	37.6
27 (8.8)	R.	39.82	38.3
Mean . . .		22 2 40.43	2 46 37.27
Div., Flex., etc.		. .	— 1.42

LACAILLE 9036.

		h. m. s.	° ′ ″
Aug. 11	R.	22 2 58.53	124 35 56.9
Sept. 19	S.	58.64	57.0
20	R.	58.50	55.7
24 (6.8)	R.	58.64	55.8
Mean . . .		22 2 58.58	124 35 56.35
Div., Flex., etc.		. .	— 0.16

B. A. C. 7749.

		h. m. s.	° ′ ″
July 19	W.	22 6 43.66	32 23 8.3
Aug. 26	S.	. .	8.3
Oct. 13	S.	. .	8.4
21	S.	. .	8.2
Mean . . .		22 6 43.66	32 23 8.30
Div., Flex., etc.		. .	— 1.36

B. A. C. 7749 (Ref.).

		h. m. s.	° ′ ″
Aug. 26	S.	22 6 . .	32 23 4.5
Oct. 13	S.	. .	4.4
21	S.	. .	6.0
Mean . . .		. .	32 23 4.97
Div., Flex., etc.		. .	+ 1.16

B. A. C. 7795.

		h. m. s.	° ′ ″
July 23	W.	22 15 30.66	91 59 13.0
Div., Flex., etc.		. .	— 0.46

WEISSE (2) 496.

		h. m. s.	° ′ ″
July 19	W.	22 23 35.65	63 50 42.3
23	W.	35.70	42.1
Aug. 11	R.	35.75	42.2
Oct. 20	E.	. .	43.1
Mean . . .		22 23 35.70	63 50 42.4
Div., Flex., etc.		. .	— 0.5

WEISSE (2) 496 (Ref.).

		h. m. s.	° ′ ″
Oct. 20	E.	. .	63 50 40.8
Div., Flex., etc.		. .	+ 0.5

B. A. C. 7842.

		h. m. s.	° ′ ″
Aug. 27	R.	22 24 44.31	122 57 19.5
Div., Flex., etc.		. .	— 0.1

B. A. C. 7872.

		h. m. s.	° ′ ″
July 23	W.	22 29 53.44	122 16 42.0
Oct. 20	E.	53.57	43.2
Mean . . .		22 29 53.50	122 16 42.6
Div., Flex., etc.		. .	— 0.1

PIAZZI XXII, 154.

		h. m. s.	° ′ ″
July 23	W.	22 29 56.99	122 15 28.9
Oct. 20	E.	57.15	29.1
Mean . . .		22 29 57.07	122 15 29.0
Div., Flex., etc.		. .	— 0.1

B. A. C. 7895.

		h. m. s.	° ′ ″
Aug. 27	R.	22 33 43.87	121 16 19.6
Div., Flex., etc.		. .	— 0.1

B. A. C. 7906.

		h. m. s.	° ′ ″
July 19	W.	22 35 17.84	46 20 41.9
23	W.	17.84	41.9
Aug. 27	R.	17.81	40.5
Mean . . .		22 35 17.83	46 20 41.4
Div., Flex., etc.		. .	— 1.2

B. A. C. 7909.

		h. m. s.	° ′ ″
Sept. 19	S.	22 35 44.95	119 58 56.9
20	R.	44.88	56.5
Oct. 10	R.	44.90	58.9
Mean . . .		22 35 44.91	119 58 57.4
Div., Flex., etc.		. .	— 0.2

B. A. C. 8206 (Ref.).

		h. m. s.	° ′ ″
Nov. 27	R.	23 28 . .	59 19 52.9
Div., Flex., etc.		. .	+ 0.42

B. A. C. 8268.

		h. m. s.	° ′ ″
Oct. 11	W.	23 41 14.77	32 0 41.2
Nov. 8	W.	. .	41.0
16	W.	14.95	42.2
28	W.	14.82	43.0
Mean . . .		23 41 14.85	32 0 41.85
Div., Flex., etc.		. .	— 1.36

B. A. C. 8343.

		h. m. s.	° ′ ″
Oct. 1	S.	23 55 34.95	130 48 40.8
10	R.	34.77	39.1
11	W.	34.91	40.7
Mean . . .		23 55 34.88	130 48 40.20
Div., Flex., etc.		. .	— 0.10

B. A. C. 8348.

		h. m. s.	° ′ ″
Oct. 20	E.	23 55 49.35	127 53 31.8
21	S.	49.38	30.4
22	R.	49.25	28.4
Mean . . .		23 55 49.33	127 53 30.20
Div., Flex., etc.		. .	— 0.19

B. A. C. 8352.

		h. m. s.	° ′ ″
Oct. 25	S.	23 56 13.84	120 23 0.8
26	R.	13.76	1.4
Nov. 4	W.	13.97	1.3
Mean . . .		23 56 13.86	120 23 1.17
Div., Flex., etc.		. .	— 0.21

B. A. C. 8357.

		h. m. s.	° ′ ″
Oct. 11	W.	23 57 20.21	126 54 49.6
Div., Flex., etc.		. .	— 0.19

CATALOGUE

OF

MISCELLANEOUS STARS

OBSERVED WITH

THE TRANSIT CIRCLE.

1881.

CATALOGUE

OF

MISCELLANEOUS STARS

OBSERVED IN

THE YEAR 1881

WITH

THE TRANSIT CIRCLE.

Number.	Name of Star.	Magnitude.	Mean Right Ascension, 1881.0.	Annual Precession, 1881.0.	Mean year.	No. of obs.	Mean N. P. Distance, 1881.0.	Annual Precession, 1881.0.	Mean year.	No. of obs.
			h. m. s.	s.			° ′ ″	″		
1	B. A. C. 8375	. .	0 0 49.97	+ 3.068	1.8	3	129 32 27.4	— 20.05	1.8	3
2	B. A. C. 8376	7.0	1 20.55	3.065	1.8	2	131 8 34.6	20.05	1.8	2
3	B. A. C. 2	. .	2 0.63	3.064	1.9	3	124 11 31.2	20.05	1.9	3
4	B. A. C. 22	6.5	5 17.06	3.046	1.8	2	131 2 9.2	20.05	1.8	2
5	B. A. C. 24	. .	5 41.14	3.048	1.8	1	125 47 56.5	20.05	1.8	1
6	Weisse (2) 100 . . .	. .	0 5 52.24	+ 3.087	1.8	3	67 11 27.0	— 20.05	1.8	3
7	B. A. C. 62	. .	13 21.95	3.059	1.8	2	99 29 2.3	20.02	1.8	2
8	B. A. C. 79	. .	17 51.34	3.202	1.8	1	38 38 24.0	19.99	1.8	6
9	B. A. C. 79 (Ref.) . .	. .	. . .	. .	. .	.	38 38 24.1	19.99	1.8	5
10	B. A. C. 118	. .	24 39.13	2.951	1.8	3	130 10 28.9	19.94	1.8	3
11	B. A. C. 126	. .	0 26 14.76	+ 3.363	1.1	1	27 43 31.2	— 19.92	1.5	2
12	B. A. C. 126 (Ref.) .	. .	. . .	. .	. .	.	27 43 32.1	19.92	1.9	1
13	B. A. C. 144	. .	28 51.34	2.938	1.8	2	128 39 9.9	19.90	1.8	2
14	B. A. C. 166	. .	32 57.97	3.184	1.5	2	59 47 27.1	19.85	1.7	5
15	B. A. C. 166 (Ref.) .	. .	. . .	. .	. .	.	59 47 27.3	19.85	1.9	3
16	Anonymous	11.5	0 35 8.87	+ 3.103	1.7	1	81 31 29.0	— 19.82	1.7	1
17	Lalande 1251	8.0	40 37.21	3.051	1.8	1	95 4 11.4	19.74	1.8	1
18	B. A. C. 215	. .	41 1.94	3.176	1.9	1	66 22 50.6	19.73	1.9	1
19	η^1 Cassiopeæ	3.0	41 54.76	3.450	1.8	4	32 48 56.8	19.72	1.8	4
20	η^2 Cassiopeæ	8.0	41 54.87	3.450	1.8	4	32 49 2.8	19.72	1.8	4
21	δ Piscium	. .	0 42 30.57	+ 3.102	1.9	2	83 3 47.0	— 19.71	1.9	2
22	Bonn VI + 5°, 114 .	9.7	44 59.54	3.097	1.9	2	84 41 32.6	19.67	1.9	2
23	B. A. C. 237	. .	45 10.65	3.085	1.8	1	87 15 40.0	19.66	1.8	1
24	Weisse 775	. .	45 48.09	3.088	1.9	1	86 35 13.4	19.65	1.9	1
25	B. A. C. 243	. .	47 11.93	3.089	1.9	2	86 33 35.0	19.63	1.9	2

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			h. m. s.	s.			° ′ ″	″		
26	Anonymous	. .	0 47 25.84	+ 3.232	1.8	1	59 46 43.6	— 19.63	1.8	1
27	Weisse 806	9.2	47 32.37	3.078	1.9	1	88 44 11.7	19.62	1.9	1
28	B. A. C. 253	. .	49 32.18	3.570	1.5	4	29 55 42.4	19.59	1.5	4
29	B. A. C. 253 (Ref.) .	. .	. . .	. .	. .	.	29 55 41.7	19.59	2.0	1
30	B. A. C. 261	. .	51 0.01	3.726	1.8	3	24 17 30.9	19.56	1.8	3
31	B. A. C. 262	. .	0 52 44.57	+ 7.053	1.8	1	4 22 56.5	— 19.52	1.8	1
32	D. M. + 60°, 146 . .	8.0	55 16.80	3.647	1.9	1	29 3 15.7	19.47	1.9	1
33	B. A. C. 282	. .	56 18.08	3.646	1.9	2	29 33 55.2	19.45	1.9	2
34	B. A. C. 285	. .	56 18.23	3.269	1.8	1	58 50 8.5	19.45	1.8	1
35	O. Arg. N. 1031 . . .	6.5	56 59.33	3.664	1.9	3	29 3 32.2	19.44	1.9	3
36	O. Arg. N. 1035 . . .	5.2	0 57 3.24	+ 3.492	1.9	3	38 8 8.6	— 19.44	1.9	3
37	O. Arg. N. 1047 . . .	8.8	57 24.30	3.494	1.9	3	38 10 31.6	19.43	1.9	3
38	B. A. C. 302	. .	58 53.04	3.715	2.0	1	27 52 33.2	19.40	2.0	1
39	D. M. + 30°, 161 . .	. .	0 59 23.59	3.274	1.8	1	59 30 17.6	— 19.38	1.8	1
40	Lalande (F.) 179, S. P.	. .	1 2 49.76	3.931	1.3	2	337 8 40.2	+ 19.30	1.3	2
41	B. A. C. 335	. .	1 3 44.97	+ 3.811	1.9	1	26 25 50.6	— 19.28	1.9	1
42	B. A. C. 355	. .	5 33.40	2.829	1.9	2	122 52 55.8	19.24	1.9	2
43	Lalande 2142	9.1	6 16.24	3.306	1.9	2	58 33 32.3	19.22	1.9	2
44	Lalande 2144	7.6	6 17.68	3.306	1.9	2	58 33 24.8	19.22	1.9	2
45	B. A. C. 377	. .	9 38.86	3.417	2.0	1	47 41 19.8	19.13	2.0	1
46	B. A. C. 454	7.5	1 25 25.34	+ 3.161	1.9	2	79 43 30.6	— 18.68	1.9	2
47	B. A. C. 466	. .	27 36.58	2.690	2.0	1	127 28 39.1	18.61	2.0	1
48	D. M. + 8°, 246 . .	9.0	27 40.31	3.146	1.9	3	81 37 3.5	18.60	1.9	3
49	D. M. + 8°, 247 . .	. .	27 47.79	3.146	1.9	3	81 35 39.9	18.60	1.9	3
50	Lacaille 459	7.0	29 22.83	2.704	1.9	4	125 57 16.2	18.55	1.9	3
51	B. A. C. 526	. .	1 36 13.97	+ 2.635	1.8	3	128 44 13.2	— 18.31	1.8	3
52	B. A. C. 528	. .	36 48.31	2.653	1.9	4	127 25 59.2	18.29	1.9	4
53	B. A. C. 536	. .	38 32.41	2.907	1.9	3	106 33 52.9	18.23	1.9	3
54	Weisse (2) 855 . . .	8.7	38 54.29	3.439	1.9	1	56 44 43.8	18.22	1.9	1
55	B. A. C. 553	. .	42 36.13	2.624	2.0	3	127 45 16.8	18.08	2.0	3
56	B. A. C. 555	. .	1 43 20.57	+ 3.801	1.9	1	38 39 16.0	— 18.05	1.9	1
57	B. A. C. 558	. .	44 10.96	3.897	1.9	2	35 26 33.5	18.02	1.9	2
58	B. A. C. 560	. .	44 35.66	3.780	1.8	1	39 47 47.3	18.00	1.8	2
59	Lalande 3401	6.8	45 18.25	3.262	1.9	2	72 17 45.0	17.97	1.9	2
60	B. A. C. 569	. .	46 17.96	3.404	1.6	1	61 0 9.4	17.94	1.6	1
61	Anonymous	. .	1 46 50.24	+ 3.679	1.9	1	44 44 34.6	— 17.91	1.9	1
62	B. A. C. 575	. .	47 44.51	3.583	2.0	1	49 52 56.3	17.88	2.0	1
63	Anonymous	. .	49 45.56	3.212	1.8	1	77 11 18.1	— 17.80	1.8	1
64	Groombridge 410, S. P.	. .	51 9.73	5.386	1.3	1	344 55 26.4	+ 17.74	1.3	1
65	Groombridge 409, S. P.	. .	51 12.00	5.382	1.3	1	344 53 31.2	17.74	1.3	1

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			h. m. s.	s.			° ′ ″	″		
106	B. A. C. 930	. .	2 52 54.42	+ 2.340	1.9	2	128 40 9.1	— 14.61	1.9	2
107	Anonymous	. .	52 58.10	3.188	1.9	1	82 45 46.3	14.61	1.9	1
108	O. Arg. N. 3411 . . .	. .	57 22.48	4.954	1.8	2	26 24 23.7	14.34	1.8	2
109	B. A. C. 953	. .	57 33.24	3.813	1.2	1	51 37 20.2	14.33	1.2	1
110	B. A. C. 955	. .	2 59 4.21	6.343	1.1	2	16 3 38.3	14.24	1.1	2
111	B. A. C. 962	. .	3 0.4 . .	+ . .	. .	.	40 50 34.4	— 14.16	1.2	1
112	54 Arietis	. .	1 36.44	3.388	1.1	1	71 39 46.5	14.08	1.1	1
113	B. A. C. 984	. .	4 0.08	2.377	1.9	1	125 53 7.5	13.93	1.9	1
114	δ Arietis	. .	4 49.48	3.410	1.1	1	70 43 28.1	13.88	1.1	1
115	B. A. C. 1003	. .	8 21.71	2.351	1.9	1	126 23 24.4	13.65	1.9	1
116	B. A. C. 1005	. .	3 8 40.34	+ 2.501	1.6	3	120 14 58.7	— 13.63	1.6	3
117	B. A. C. 1021	. .	11 53.01	2.348	1.9	4	126 7 47.7	13.43	1.9	4
118	B. A. C. 1037	. .	14 13.58	2.664	1.1	2	112 11 31.2	13.27	1.1	2
119	Weisse (2) 320	. .	17 3.42	3.733	1.9	3	56 53 16.3	13.09	1.9	3
120	Lalande 6268	. .	17 37.34	3.292	1.7	3	77 47 38.4	13.05	1.7	3
121	B. A. C. 1060	. .	3 18 58.06	+ 2.406	2.0	3	123 7 50.4	— 12.96	1.8	4
122	Bonn VI + 33°, 656 .	. .	20 52.43	3.750	1.9	3	56 36 22.9	12.83	1.9	3
123	B. A. C. 1082	. .	22 56.83	2.318	2.0	3	126 5 46.1	12.69	2.0	3
124	Weisse (2) 466	. .	24 9.00	3.606	1.3	3	62 50 9.8	12.61	1.3	3
125	Weisse (2) 467	. .	24 9.89	3.606	1.3	3	62 50 9.4	12.61	1.3	3
126	O. Arg. N. 3875 . . .	. .	3 24 35.76	+ 4.536	2.0	1	35 25 50.4	— 12.58	2.0	1
127	Lalande 6686	. .	32 5.71	3.702	1.8	1	69 28 26.3	12.06	1.8	1
128	B. A. C. 1121	. .	32 17.61	2.450	2.0	3	120 13 19.1	12.05	2.0	3
129	B. A. C. 1117	. .	32 54.09	4.896	1.9	1	30 24 57.3	12.01	1.9	1
130	O. Arg. N. 4050 . . .	. .	36 52.60	6.135	1.9	3	19 29 58.5	11.73	1.9	3
131	B. A. C. 1143	. .	3 37 32.76	+ 3.480	1.1	1	69 26 54.8	— 11.68	1.1	1
132	B. A. C. 1170	. .	41 18.15	3.540	1.1	1	66 56 44.8	11.41	1.1	1
133	Piazzi III, 182	6.6	44 12.20	2.206	1.9	3	127 59 12.4	11.20	1.9	3
134	Piazzi III, 183	5.2	44 12.39	2.206	1.9	3	127 59 5.6	— 11.20	1.9	3
135	Lalande (F) 606, S. P.	. .	45 59.91	7.488	1.5	2	345 49 48.5	+ 11.07	1.5	2
136	O. Arg. N. 4351 . . .	. .	3 54 7.44	+ 5.945	1.9	2	21 39 4.3	— 10.47	1.9	2
137	B. A. C. 1244	. .	55 16.62	3.267	1.5	2	80 20 13.9	10.38	1.5	2
138	36 Tauri	. .	57 14.67	3.579	1.1	1	66 13 22.8	10.24	1.1	1
139	B. A. C. 1254	. .	57 43.36	4.446	2.0	1	39 58 24.3	10.20	1.5	2
140	B. A. C. 1254 (Ref.) .	. .	. . . .	. .	. .	.	39 58 24.9	10.20	1.0	1
141	Weisse 1095	. .	3 57 56.59	+ 3.122	1.8	1	87 29 50.9	— 10.18	1.8	1
142	49 Persei	. .	4 0 23.57	3.959	1.9	1	52 35 12.9	10.00	1.9	1
143	B. A. C. 1247	. .	0 46.08	13.275	2.0	1	6 29 14.0	9.97	2.0	1
144	B. A. C. 1289	. .	5 47.92	3.549	1.1	1	67 53 38.1	9.58	1.1	1
145	Weisse (2) 54	. .	6 5.00	3.979	1.3	3	52 20 21.5	9.56	1.3	3

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			h. m. s.	s.			° ′ ″	″		
186	B. A. C. 1630	. .	5 9 33.12	+ 2.126	1.5	2	125 57 46.3	— 4.38	1.5	2
187	Weisse (2) 245 . . .	. .	10 53.06	3.934	1.8	1	56 36 20.3	4.26	1.8	1
188	Weisse (2) 247 . . .	. .	10 53.35	3.934	1.8	1	56 36 5.0	4.26	1.8	1
189	Weisse (2) 266 . . .	6.2	11 53.40	4.208	2.0	2	49 2 17.7	4.18	2.0	2
190	B. A. C. 1661	. .	15 50.15	3.152	1.5	2	86 32 46.1	3.84	1.5	2
191	Weisse 342	. .	5 16 34.68	+ 3.151	1.5	2	86 34 18.3	— 3.78	1.5	2
192	Weisse 343	. .	16 35.76	3.151	1.5	2	86 33 48.4	3.77	2.0	1
193	B. A. C. 1718	. .	23 25.19	2.231	1.0	1	122 30 57.7	3.19	1.0	1
194	B. A. C. 1662	. .	24 0.24	18.575	1.9	1	4 52 5.5	3.14	1.9	1
195	Weisse 619	8.6	26.7 . .	. .	. .	.	91 40 51.3	2.90	1.1	1
196	B. A. C. 1756	. .	5 28 51.10	+ 2.015	1.1	1	128 35 48.4	— 2.72	1.1	1
197	B. A. C. 1752	. .	29 13.84	2.931	1.0	1	96 4 58.9	2.68	1.0	1
198	ι^1 Orionis	. .	29 36.86	2.933	1.0	1	95 59 23.7	2.65	1.0	1
199	B. A. C. 1767	. .	30.5 . .	. .	. .	.	68 55 53.5	2.57	1.2	1
200	B. A. C. 1767 (Ref.) .	. .	. . .	. .	. .	.	68 55 55.2	2.57	1.2	1
201	B. A. C. 1814	. .	5 37 59.32	+ 2.150	1.1	2	124 43 36.9	— 1.92	1.1	2
202	B. A. C. 1826	. .	40 20.32	3.295	2.0	1	80 31 23.0	1.72	2.0	1
203	B. A. C. 1847	. .	42 32.89	2.094	1.1	1	126 16 31.6	1.53	1.1	1
204	υ Aurigæ	. .	42 55.43	4.087	1.2	1	52 43 50.1	1.49	1.2	1
205	Lalande 11061 . . .	. .	43.9 . .	. .	. .	.	85 36 46.5	1.41	1.1	1
206	B. A. C. 1849	. .	5 44.3 . .	. .	. .	.	30 8 28.8	— 1.37	1.4	4
207	B. A. C. 1849 (Ref.) .	. .	. . .	. .	. .	.	30 8 27.1	1.37	1.4	4
208	D. M. + 31°, 1126 . .	. .	44 46.78	3.898	1.1	1	58 14 45.9	1.33	1.1	1
209	B. A. C. 1865	. .	45 22.53	2.282	1.0	1	120 39 24.1	1.28	1.0	1
210	Anonymous	. .	45 59.11	3.702	2.0	1	64 43 5.5	1.23	2.0	1
211	B. A. C. 1878	. .	5 46 46.10	+ 2.109	1.2	1	125 48 51.0	— 1.16	1.2	1
212	B. A. C. 1889	. .	48 29.89	2.042	1.1	1	127 39 27.0	1.00	1.1	1
213	B. A. C. 1904	. .	51 0.26	1.952	1.2	1	129 58 45.1	0.79	1.2	1
214	B. A. C. 1914	. .	53 33.79	4.660	1.1	1	40 5 54.6	0.56	1.1	1
215	D. M. + 14°, 1110 . .	. .	54 4.19	3.426	2.0	1	75 9 52.5	0.52	2.0	1
216	Lalande 11344 . . .	9.0	5 54 7.32	+ 3.789	1.1	3	61 47 46.4	— 0.51	1.1	3
217	Lalande 11380 . . .	8.8	55 4.21	3.789	1.1	3	61 47 47.9	0.43	1.1	3
218	χ^3 Orionis	. .	56 24.65	3.551	1.2	1	70 18 33.4	0.31	1.2	1
219	χ^1 Orionis	. .	56.9 . .	. .	. .	.	69 51 37.5	0.27	1.1	2
220	χ^1 Orionis (Ref.)	. .	. . .	. .	. .	.	69 51 38.3	0.27	1.1	2
221	D. M. + 17°, 1115 . .	. .	5 58 11.12	+ 3.505	1.2	1	72 4 5.6	— 0.16	1.2	1
222	Piazzi V, 333	. .	6 2 29.53	4.597	1.2	1	41 15 52.6	+ 0.22	1.2	1
223	Piazzi V, 334	. .	2 29.51	4.597	1.2	1	41 16 0.2	0.22	1.2	1
224	Piazzi VI, 6	. .	3 0.51	1.857	1.1	1	132 17 3.5	0.26	1.1	1
225	Piazzi VI, 12	. .	4 11.28	1.863	1.2	1	132 8 10.7	0.37	1.2	1

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			h. m. s.	s.			° ′ ″	″		
266	B. A. C. 2458	. .	7 19 23.46	+ 2.373	1.2	1	119 4 18.8	+ 6.81	1.2	1
267	Stone 3672	6.5	24 17.12	2.305	1.1	1	121 36 14.2	7.21	1.1	1
268	Stone 3673	7.7	24 17.61	2.305	1.1	1	121 36 10.0	7.21	1.1	1
269	B. A. C. 2478	. .	24 29.45	2.317	1.2	1	121 12 42.7	7.23	1.2	1
270	Weisse (2) 704 . . .	. .	25 42.57	3.604	1.2	1	66 51 37.4	7.33	1.2	1
271	Weisse (2) 703 . . .	9.0	7 25 42.67	+ 3.604	1.2	1	66 51 48.4	+ 7.33	1.2	1
272	Piazzi VII, 137 . . .	. .	26 5.07	2.333	1.2	1	120 42 46.1	7.36	1.2	1
273	a^1 Geminorum	. .	26 59.92	3.853	1.2	2	57 51 11.4	7.43	1.2	2
274	B. A. C. 2502	6.2	29 32.70	2.172	1.2	2	126 4 51.7	7.64	1.2	2
275	Stone 3761	7.3	33 4.64	2.175	1.2	2	126 9 1.0	7.92	1.2	1
276	Weisse (2) 955 . . .	. .	7 33 50.86	+ 3.600	1.1	3	66 42 28.0	+ 7.98	1.1	3
277	B. A. C. 2536	5.7	34 25.28	2.175	1.2	2	126 13 34.0	8.03	1.2	1
278	B. A. C. 2543	. .	35 15.92	2.116	1.2	2	128 2 4.8	8.10	1.2	3
279	B. A. C. 2546	. .	35 36.16	2.119	1.2	2	127 59 12.2	+ 8.12	1.2	3
280	Groombridge 1361, S. P	. .	40 44.28	8.707	1.5	1	347 52 52.4	— 8.53	1.5	1
281	B. A. C. 2580	. .	7 41 1.03	+ 2.138	1.1	1	127 40 49.1	+ 8.56	1.1	1
282	B. A. C. 2593	. .	42 27.45	2.068	1.1	1	129 46 4.5	8.67	1.1	1
283	B. A. C. 2604	. .	44 4.57	2.052	1.2	1	130 21 20.8	8.80	1.2	1
284	B. A. C. 2608	. .	44 48.90	2.234	1.1	1	124 56 44.7	8.86	1.1	1
285	B. A. C. 2614	. .	45 10.44	2.052	1.2	1	130 24 7.2	8.88	1.2	1
286	B. A. C. 2629	. .	7 47 49.19	+ 2.256	1.2	1	124 24 25.8	+ 9.09	1.2	1
287	B. A. C. 2634	. .	48 7.55	2.064	1.2	1	130 16 9.7	9.11	1.2	1
288	85 Geminorum	. .	48 43.12	3.510	1.1	2	69 48 10.5	9.16	1.1	2
289	B. A. C. 2646	. .	50 11.68	2.257	1.2	1	124 32 1.3	9.28	1.2	1
290	B. A. C. 2649	. .	51 44.08	3.430	1.1	1	73 9 43.8	9.39	1.1	1
291	B. A. C. 2671	. .	7 55 16.49	+ 2.125	1.1	1	128 58 15.8	+ 9.67	1.1	1
292	Groombridge 1400 . .	. .	57 59.01	6.280	1.2	3	19 56 14.0	9.87	1.2	3
293	Taylor 3394	. .	58 0.74	1.938	1.3	1	134 16 11.7	9.88	1.3	1
294	B. A. C. 2699	. .	58 25.74	2.342	1.1	2	122 7 50.8	9.91	1.1	2
295	Weisse (2) 1566 . . .	. .	7 58 34.16	4.026	1.1	1	50 38 15.8	9.92	1.1	1
296	B. A. C. 2735	. .	8 3 29.98	+ 2.273	1.1	2	124 51 55.3	+ 10.29	1.1	2
297	B. A. C. 2743	. .	4 40.48	2.268	1.1	1	125 6 27.3	10.38	1.1	1
298	O. Arg. N. 8685 . . .	9.3	5 21.38	6.219	1.2	3	19 56 50.9	10.43	1.2	3
299	B. A. C. 2762	. .	7 6.64	2.143	1.1	1	129 15 53.5	10.56	1.1	1
300	B. A. C. 2772	. .	8 2.17	2.230	1.2	2	126 37 58.2	10.63	1.2	2
301	B. A. C. 2774	. .	8 9 0.14	+ 2.265	1.3	1	125 32 26.5	+ 10.70	1.3	1
302	B. A. C. 2777	6.2	9 30.21	2.253	1.1	2	125 57 45.3	10.74	1.1	2
303	Brisbane 1942	7.4	9 30.64	2.253	1.1	2	125 58 52.4	10.74	1.1	2
304	D. M. + 36°, 1782 . .	. .	9 47.48	3.915	1.2	1	53 15 2.7	10.76	1.2	1
305	D. M. + 36°, 1783 . .	. .	9 49.44	3.914	1.2	1	53 15 37.2	10.76	1.2	1

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			h. m. s.	s.			° ′ ″	″		
306	B. A. C. 2778	. .	8 10 3.64	+ 3.262	1.8	1	80 26 55.8	+ 10.78	1.8	1
307	Anonymous	. .	11 2.89	4.088	1.2	1	47 53 32.2	10.85	1.2	1
308	Mer. C. Z. 168, 6 . . .	6.8	11 28.72	2.270	1.2	2	125 32 18.2	10.88	1.2	2
309	M. Z. 232, 21	8.1	11 42.24	2.271	1.2	2	125 31 4.9	10.90	1.2	2
310	Anonymous	. .	12 41.05	2.273	1.2	1	125 32 58.2	10.97	1.2	1
311	M. Z. 230, 41	. .	8 12 41.47	+ 2.383	1.1	1	121 39 7.0	+ 10.97	1.1	1
312	B. A. C. 2794	. .	13 45.04	2.289	1.1	1	125 4 54.1	11.05	1.1	1
313	Anonymous	. .	14 43.00	2.278	1.2	1	125 32 6.2	11.12	1.2	1
314	O. Arg. N. 8887 . . .	8.8	14 46.03	4.449	1.3	1	38 56 20.0	11.13	1.3	1
315	B. A. C. 2809	. .	17 6.08	2.170	1.2	2	129 14 31.1	11.29	1.2	2
316	Lalande 16413	. .	8 17 27.80	+ 3.856	1.1	1	54 36 19.3	+ 11.32	1.1	1
317	O. Arg. S. 8457 . . .	8.5	17 39.94	2.471	1.1	1	118 35 32.2	11.33	1.1	1
318	B. A. C. 2820	. .	18 53.20	2.217	1.2	1	127 54 14.6	11.42	1.2	1
319	O. Arg. N. 9001 . . .	8.6	21 2.34	4.423	1.2	2	38 56 28.3	11.58	1.2	2
320	Lacaille 3325	. .	22 29.65	2.412	1.1	1	121 16 52.7	11.68	1.1	1
321	O. Arg. N. 9029 . . .	8.0	8 23 1.21	+ 4.417	1.2	2	38 53 38.1	+ 11.72	1.2	2
322	O. Arg. N. 9033 . . .	7.5	23 14.38	4.413	1.2	2	38 58 27.2	11.73	1.2	2
323	O. Arg. N. 9058 . . .	8.2	24 13.52	4.410	1.2	2	38 56 3.5	11.81	1.2	2
324	Anonymous	8.8	24 15.20	3.206	1.1	1	82 59 5.1	11.81	1.1	1
325	Anonymous	. .	26 2.21	3.188	1.2	1	83 51 41.4	11.93	1.2	1
326	Lacaille 3373	. .	8 26 42.47	+ 2.215	1.2	1	128 39 39.2	+ 11.98	1.2	1
327	B. A. C. 2877[2]	. .	27 1.22	2.215	1.2	1	128 39 49.6	12.00	1.2	1
328	B. A. C. 2890	. .	29.2 . .	. .	. .	.	128 26 33.4	12.15	1.2	1
329	O. Arg. N. 9125 . . .	8.2	30 8.70	4.386	1.1	2	38 55 18.8	12.22	1.1	2
330	B. A. C. 2900	. .	30 50.32	2.199	1.2	2	129 33 43.6	12.27	1.2	3
331	Weisse (2) 786	. .	8 33 2.15	+ 3.475	1.1	1	69 1 18.2	+ 12.42	1.1	1
332	D. M. + 20°, 2165 . .	. .	33 30.63	3.456	1.1	1	69 53 38.2	12.45	1.1	1
333	Bradley 1224	. .	33 31.97	3.456	1.2	1	69 54 38.6	12.45	1.2	1
334	O. Arg. N. 9210 . . .	8.8	33 40.48	4.369	1.1	2	38 55 28.5	12.46	1.1	2
335	B. A. C. 2933	. .	34 49.09	2.309	1.1	1	126 11 20.3	12.54	1.1	1
336	B. A. C. 2943	. .	8 38 1.75	+ 5.519	1.1	1	22 51 26.8	+ 12.76	1.1	1
337	B. A. C. 2980	6.5	42 5.92	2.382	1.2	3	124 11 13.3	13.03	1.2	3
338	B. A. C. 3012	. .	45 23.08	2.268	1.1	3	128 42 0.9	13.25	1.1	3
339	B. A. C. 3024	. .	47 31.39	2.221	1.2	2	130 32 23.0	13.39	1.2	2
340	B. A. C. 3030	. .	48 15.48	2.289	1.2	3	128 16 35.6	+ 13.43	1.2	3
341	D. M. + 80°, 281, S. P.	9.8	8 50 3.99	+ 9.148	1.5	1	350 47 17.5	− 13.55	1.5	1
342	O. Arg. N. 9450 . . .	. .	50 12.84	4.186	1.1	2	41 29 35.6	+ 13.56	1.1	2
343	B. A. C. 3053	. .	51 16.94	3.243	1.2	3	80 9 18.2	13.63	1.2	3
344	B. A. C. 3081	. .	55 38.99	2.241	1.1	1	130 47 27.0	13.91	1.1	1
345	Abo 185	. .	56 56.13	4.268	1.2	1	38 42 11.0	13.99	1.2	1

Number.	Name of Star.	Magnitude.	Mean Right Ascension, 1881.0.	Annual Precession, 1881.0.	Mean year.	No. of obs.	Mean N. P. Distance, 1881.0.	Annual Precession, 1881.0.	Mean year.	No. of obs.
			h. m. s.	s.			° ′ ″	″		
346	Lalande 18067	. .	9 2 53.31	+ 2.828	1.2	1	104 39 30.7	+ 14.36	1.2	1
347	B. A. C. 3116	. .	3 53.59	6.197	1.1	2	16 33 34.2	14.42	1.1	2
348	B. A. C. 3146	. .	8 10.36	3.121	1.2	2	87 11 4.0	14.68	1.2	2
349	B. A. C. 3162[1]	8.0	11 25.72	3.756	1.3	1	52 41 44.3	14.87	1.3	1
350	B. A. C. 3162[2]	4.5	11 26.06	3.756	1.2	5	52 41 42.4	14.87	1.2	5
351	B. A. C. 3192[1]	. .	9 15 42.28	+ 2.539	1.1	1	121 15 22.3	+ 15.12	1.1	1
352	B. A. C. 3193	. .	15 43.00	2.409	1.2	2	127 4 36.9	15.12	1.2	2
353	Anonymous	. .	17 7.97	2.542	1.1	1	121 17 27.5	+ 15.20	1.1	1
354	Anonymous, S. P. . .	. .	21 58.59	5.463	1.8	1	340 25 6.2	— 15.47	1.8	1
355	Anonymous	10.3	23 0.22	3.649	1.2	1	65 42 36.1	+ 15.53	1.2	1
356	B. A. C. 3254[1]	. .	9 25 40.19	+ 2.564	1.1	1	121 22 6.7	+ 15.68	1.1	1
357	B. A. C. 3254[2]	. .	25 40.67	2.564	1.1	1	121 21 58.8	15.68	1.1	1
358	B. A. C. 3262	. .	26 26.94	2.567	1.1	1	121 20 54.3	15.72	1.1	1
359	B. A. C. 3267	. .	27 35.98	2.377	1.2	1	130 7 24.1	15.78	1.2	1
360	D. M. + 37°, 2006 . .	8.8	28 7.80	3.702	1.2	3	52 35 25.0	15.81	1.2	2
361	D. M. + 37°, 2007 . .	8.8	9 28 17.50	+ 3.701	1.2	3	52 35 29.0	+ 15.82	1.2	2
362	Piazzi IX, 142	. .	32 2.70	2.577	1.3	2	121 38 40.1	16.02	1.3	2
363	B. A. C. 3303	. .	33.8 . .	. .	. .	.	90 36 12.0	16.11	1.1	2
364	B. A. C. 3303 (Ref.) .	. .	. . .	. .	. .	.	90 36 11.9	16.11	1.1	2
365	B. A. C. 3336	. .	39 53.31	3.170	1.1	1	82 44 33.7	16.42	1.1	1
366	D. M. + 21°, 2106 . .	9.0	9 40 38.74	+ 3.372	1.1	1	68 36 0.0	+ 16.46	1.1	1
367	15 Leonis Minoris	. .	40 54.49	3.878	1.3	1	43 25 31.4	16.47	1.3	1
368	Brisbane 2651	. .	41 22.37	2.432	1.2	1	130 5 26.2	16.50	1.2	1
369	Anonymous	. .	42 16.78	2.580	1.3	1	123 5 11.0	16.54	1.3	1
370	B. A. C. 3346	. .	42 31.10	4.359	1.2	3	30 24 9.7	16.55	1.2	3
371	B. A. C. 3346 (Ref.). .	. .	. . .	. .	. .	.	30 24 9.7	+ 16.55	1.1	1
372	D. M. + 16°, 2042 . .	10.0	9 45 53.08	+ 3.285	1.1	1	73 55 15.6	16.72	1.1	1
373	Anonymous	8.5	46 10.21	3.207	1.2	1	79 40 21.0	16.73	1.2	1
374	Weisse (2) 1047 . . .	9.2	50 28.80	3.300	1.1	2	72 22 43.1	16.94	1.1	2
375	Anonymous	10.5	52 38.76	3.268	1.2	2	74 28 43.1	17.04	1.2	2
376	B. A. C. 3417	. .	9 53 46.25	+ 2.577	1.2	1	125 19 19.9	+ 17.09	1.2	1
377	B. A. C. 3415	. .	53.9 . .	. .	. .	.	81 23 7.2	17.09	1.2	2
378	B. A. C. 3415 (Ref.). .	. .	. . .	. .	. .	.	81 23 9.8	17.09	1.3	1
379	Weisse (2) 1236 . . .	. .	59 13.28	3.270	1.1	1	73 39 52.3	17.33	1.1	1
380	B. A. C. 3452	. .	10 0 25.94	2.683	1.2	2	120 18 46.3	17.38	1.2	2
381	Weisse (2) 1282 . . .	. .	10 1 14.11	+ 3.273	1.3	2	73 8 34.3	+ 17.42	1.3	2
382	Lalande 19809	8.8	4 31.18	3.246	1.2	2	74 55 55.3	17.56	1.2	2
383	Anonymous	. .	4 46.60	3.049	1.2	1	92 2 35.4	17.57	1.2	1
384	B. A. C. 3494	. .	9 9.49	2.677	1.2	1	122 26 43.0	17.75	1.2	1
385	Piazzi X, 32	. .	10 32.10	2.509	1.1	1	132 31 10.4	17.81	1.1	1

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			h. m. s.	s.			° ′ ″	″		
386	Bonn VI + 49°, 1940 .	5.8	10 12 2.85	+ 3.770	1.3	3	41 0 16.0	+ 17.87	1.3	3
387	B. A. C. 3527	. .	13 24.29	2.550	1.3	1	131 4 22.6	17.92	1.3	1
388	B. A. C. 3552	. .	17 13.40	2.568	1.3	1	131 3 5.8	+ 18.07	1.3	1
389	Carrington 1547, S. P.	. .	18 34.01	7.260	1.5	1	352 12 55.1	— 18.12	1.5	1
390	Anonymous	11.1	23 53.93	3.239	1.2	3	72 59 42.3	+ 18.32	1.2	3
391	Weisse 520	6.0	10 30 36.96	+ 2.968	1.3	2	101 35 31.2	+ 18.55	1.3	2
392	D. M. — 1°, 2416 . .	9.0	32 11.98	3.062	1.3	1	91 12 22.7	18.60	1.3	1
393	X, 11	. .	32 17.60	2.722	1.1	1	125 6 8.8	18.60	1.1	1
394	Anonymous	10.0	32 26.65	3.063	1.3	1	91 6 25.9	18.61	1.3	1
395	B. A. C. 3652	. .	34 31.92	4.389	1.3	1	20 18 7.1	18.68	1.3	1
396	B. A. C. 3652 (Ref.) .	. .	. . . . .	. .	. .	.	20 18 5.8	+ 18.68	1.3	1
397	Anonymous	10.6	10 35 46.35	+ 3.018	1.3	1	96 28 43.8	18.71	1.2	2
398	B. A. C. 3670	7.2	37 1.01	3.577	1.1	1	43 10 5.4	18.75	1.1	1
399	Anonymous	10.3	37.1 . .	. .	. .	.	96 23 53.2	18.76	1.2	1
400	Anonymous	. .	43 35.35	3.163	1.3	1	78 17 17.2	18.95	1.3	1
401	D. M. + 11°, 2286 . .	. .	10 43 59.00	+ 3.163	1.2	3	78 17 22.0	+ 18.96	1.2	3
402	46 Leonis Minoris . . .	. .	46 39.10	3.365	1.2	1	55 8 40.0	19.04	1.2	1
403	O. Arg. N. 11292 . .	. .	52 15.84	3.580	1.1	1	37 28 50.3	19.18	1.1	1
404	Weisse (2) 1032 . . .	. .	10 52 54.18	3.360	1.2	2	53 16 5.1	19.20	1.2	2
405	Tr. Z. 11, 7	. .	11 20 45.43	2.906	1.3	1	126 13 42.2	19.76	1.3	1
406	Weisse 349	. .	11 21 49.83	+ 3.086	1.4	1	86 30 51.0	+ 19.78	1.4	1
407	B. A. C. 3906	. .	23 24.38	4.544	1.3	1	8 13 5.1	+ 19.80	1.3	1
408	B. A. C. 3906, S. P. . .	. .	23 22.72	4.544	1.8	1	351 46 56.5	— 19.80	1.8	1
409	Brisbane 3607	. .	24 17.48	2.872	1.3	1	134 2 10.2	+ 19.81	1.3	1
410	Taylor 5270	. .	25 25.82	2.876	1.3	2	134 18 41.9	19.83	1.3	2
411	Brisbane 3626	. .	11 25 51.43	+ 2.880	1.3	1	134 4 58.8	+ 19.83	1.3	1
412	Tr. Z. 6, 7	. .	25 54.00	2.909	1.4	1	129 31 24.8	19.83	1.4	1
413	Anonymous	. .	28 42.59	2.909	1.3	1	132 34 53.5	19.87	1.3	1
414	B. A. C. 3934	. .	28 42.62	2.958	1.3	1	122 12 3.9	19.87	1.3	1
415	B. A. C. 3945	. .	30 41.03	2.962	1.2	1	122 54 37.8	19.89	1.2	1
416	B. A. C. 3948	. .	11 31 7.10	+ 2.966	1.3	1	122 19 38.3	+ 19.89	1.3	1
417	D. M. + 3°, 2536 . .	9.5	36 1.00	3.080	1.3	1	86 53 46.4	19.94	1.3	1
418	Groombridge 1822 . .	. .	39 18.47	3.208	1.2	2	41 39 46.5	19.97	1.2	2
419	B. A. C. 3981	. .	39 45.93	3.205	1.4	1	41 33 39.4	19.98	1.3	3
420	B. A. C. 3981 (Ref.) .	. .	. . .	. .	. .	.	41 33 39.7	19.98	1.2	2
421	B. A. C 4002	. .	11 44 29.78	+ 3.076	1.3	3	87 33 53.4	+ 20.01	1.3	3
422	B. A. C. 4006	. .	44 57.24	3.065	1.1	1	94 40 18.2	20.01	1.1	1
423	Lalande 22585 . . .	. .	54 38.14	3.067	1.3	2	99 46 5.5	20.05	1.3	2
424	B. A. C. 4063	. .	11 57 30.25	3.071	1.1	1	94 48 59.4	20.05	1.1	1
425	B. A. C. 4123	. .	12 9.5 . .	. .	. .	.	32 18 21.0	20.04	1.4	1

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			h. m. s.	s.			° ′ ″	″		
426	B. A. C. 4123 (Ref.) .	. .	12 9.5 . .	. .	. .	.	32 18 21.7	+ 20.04	1.4	1
427	D. M. + 3°, 2627 . .	. .	13 1.03	+ 3.072	1.3	3	86 33 30.4	20.02	1.3	3
428	14 Virginis	. .	13 12.75	3.084	1.1	1	98 15 9.1	20.02	1.1	1
429	B. A. C. 4165	. .	14 22.63	0.147	1.3	2	1 38 24.6	+ 20.02	1.3	2
430	B. A. C. 4165, S. P . .	. .	14 20.95	0.147	2.0	1	358 21 34.7	− 20.02	2.0	1
431	Weisse 220	8.3	12 15 21.07	+ 3.067	1.3	3	86 36 38.4	+ 20.01	1.3	3
432	B. A. C. 4195	. .	21 0.32	3.005	1.3	2	61 4 11.8	19.97	1.3	4
433	B. A. C. 4195 (Ref.) .	. .	. . . .	. .	. .	.	61 4 10.5	19.97	1.3	2
434	B. A. C. 4201	. .	21 48.91	3.090	1.1	1	98 1 4.0	19.96	1.1	1
435	B. A. C. 4211[1] . . .	8.5	23 41.45	3.112	1.3	1	105 51 32.6	19.95	1.3	1
436	B. A. C. 4211[2] . . .	3.0	12 23 42.48	+ 3.112	1.3	2	105 51 10.9	+ 19.95	1.3	2
437	Anonymous	10.5	25 49.31	3.051	1.3	2	81 59 59.2	19.93	1.3	2
438	B. A. C. 4271	. .	35 51.64	3.032	1.3	2	79 6 29.5	19.81	1.3	6
439	B. A. C. 4271 (Ref.) .	. .	. . . .	. .	. .	.	79 6 29.9	+ 19.81	1.3	4
440	32[1] Camelopardalis, S. P. .	. .	48 8.18	0.391	1.9	1	354 3 53.8	− 19.61	1.9	1
441	B. A. C. 4335	. .	12 48.8 . .	. .	. .	.	33 23 37.6	+ 19.60	1.3	1
442	B. A. C. 4335 (Ref.) .	. .	. . . .	. .	. .	.	33 23 39.9	19.60	1.3	1
443	B. A. C. 4341	. .	49 30.44	+ 2.756	1.3	1	42 9 27.6	19.59	1.3	1
444	α[1] Canum Venaticorum .	. .	50 26.30	2.836	1.4	2	51 2 32.5	19.57	1.4	2
445	B. A. C. 4350	. .	51 41.71	2.754	1.3	3	43 10 39.0	19.55	1.3	3
446	B. A. C. 4357[2] . . .	. .	12 54 31.59	+ 3.277	1.3	1	122 58 52.2	+ 19.49	1.3	1
447	B. A. C. 4367	. .	12 56.3 . .	. .	. .	.	78 24 2.6	19.45	1.4	1
448	B. A. C. 4367 (Ref.) .	. .	. . . .	. .	. .	.	78 24 3.4	19.45	1.4	1
449	O. Arg. N. 13510 . .	. .	13 12 33.96	1.986	1.4	3	20 57 52.4	19.06	1.4	3
450	B. A. C. 4458	. .	13 54.79	3.381	1.4	4	126 5 3.7	19.02	1.4	4
451	B. A. C. 4470	. .	13 15 38.71	+ 3.052	1.6	3	87 17 12.6	+ 18.97	1.7	2
452	B. A. C. 4482	. .	19 13.95	3.441	1.3	1	129 8 2.6	18.87	1.3	1
453	B. A. C. 4489	. .	20 1.12	3.468	1.4	1	130 52 42.3	18.84	1.4	1
454	Lalande 25012 . . .	7.5	25 38.85	3.087	1.4	2	91 42 45.8	18.67	1.4	2
455	Weisse (2) 685 . . .	6.7	34 50.48	2.742	1.4	3	58 23 16.1	18.36	1.4	3
456	B. A. C. 4568	. .	13 36 13.70	+ 2.286	1.4	1	34 42 56.4	+ 18.31	1.4	1
457	D. M. + 15°, 2617 . .	9.5	38 59.47	2.917	1.3	1	74 27 59.4	18.21	1.3	1
458	Lalande 25372 . . .	8.5	39 42.26	2.916	1.3	2	74 27 46.7	18.19	1.3	2
459	B. A. C. 4624	. .	45 11.77	+ 3.429	1.3	1	121 1 39.5	17.98	1.3	1
460	B. A. C. 4643	. .	45 48.19	− 2.035	1.4	3	6 39 3.0	17.95	1.4	2
461	B. A. C. 4649	. .	13 49 28.27	+ 2.217	1.3	1	35 41 8.4	+ 17.81	1.3	1
462	Weisse 931	8.8	55 30.60	3.048	1.4	3	87 52 17.2	17.56	1.4	3
463	B. A. C. 4672	. .	55 35.52	3.048	1.4	4	87 52 44.1	17.56	1.4	4
464	B. A. C. 4674	. .	56 7.48	3.464	1.4	2	121 6 44.0	17.53	1.4	2
465	Lalande 25839 . . .	. .	57 28.65	2.386	1.4	3	43 40 12.0	17.48	1.4	3

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			h. m. s.	s.			° ′ ″	″		
466	B. A. C. 4679	. .	13 58 0.58	+ 3.241	1.4	1	104 23 56.3	+ 17.45	1.4	1
467	B. A. C. 4681	. .	13 58 47.26	3.640	1.4	1	130 36 33.0	17.42	1.4	1
468	B. A. C. 4700	. .	14 4 20.67	3.267	1.4	1	105 44 20.6	17.17	1.4	1
469	κ Virginis	. .	6 32.98	3.192	1.3	2	99 43 7.5	17.07	1.3	2
470	B. A. C. 4739	. .	12 3.58	3.311	1.4	1	108 9 50.4	16.82	1.4	1
471	B. A. C. 4759	5.0	14 15 42.72	+ 3.676	1.3	3	128 58 0.1	+ 16.64	1.3	3
472	Taylor 6714	7.2	17 46.10	3.640	1.3	1	126 54 18.6	16.54	1.3	1
473	B. A. C. 4813	. .	28 0.49	3.772	1.3	1	130 59 36.9	16.02	1.3	1
474	B. A. C. 4814	. .	28 9.09	3.364	1.4	1	109 54 58.6	16.01	1.4	1
475	B. A. C. 4905[1] . . .	8.0	45 53.70	2.757	1.4	2	70 24 16.4	15.03	1.4	2
476	B. A. C. 4905[2] . . .	4.0	14 45 54.00	+ 2.757	1.4	2	70 24 16.4	+ 15.03	1.4	2
477	Anonymous	. .	48 46.24	3.487	1.5	1	114 47 14.0	14.86	1.5	1
478	XIV, 25	. .	49 35.45	3.428	1.5	1	111 30 11.6	14.81	1.5	1
479	Lalande 27173[1] . . .	. .	50 30.17	3.418	1.4	2	110 52 34.0	14.76	1.4	2
480	Lalande 27173[2] . . .	. .	50 31.10	3.418	1.4	2	110 52 39.4	14.75	1.4	2
481	Lalande 27250 . . .	. .	14 50 54.52	+ 2.308	1.4	1	49 51 57.1	+ 14.73	1.4	2
482	Lalande 27265 . . .	. .	51 12.32	2.307	1.4	1	49 52 14.6	14.71	1.4	2
483	Weisse 989	. .	54 16.59	3.246	1.4	2	100 38 45.5	14.53	1.4	2
484	Anonymous	. .	54 29.48	3.246	1.4	1	100 37 40.9	14.52	1.4	1
485	Anonymous[2] *	9.9	57 22.81	+ 3.443	1.4	2	111 36 56.2	14.34	1.4	2
486	B. A. C. 4982	. .	14 58 27.50	− 4.573	1.4	1	7 0 2.1	+ 14.27	1.4	1
487	XIV, 30	. .	14 59 32.12	+ 3.796	1.4	1	127 29 1.2	14.21	1.4	1
488	B. A. C. 4980	. .	15 1.5 . .	. .	. .	.	41 23 19.7	14.09	1.5	1
489	B. A. C. 4980 (Ref.) .	. .	. . .	. .	. .	.	41 23 18.1	14.09	1.5	1
490	Anonymous	11.0	4 18.85	3.481	1.4	1	112 58 12.8	13.91	1.4	1
491	Lalande 28029 . . .	. .	15 15 42.79	+ 2.184	1.4	2	48 35 29.4	+ 13.17	1.4	2
492	11 Ursæ Minoris, S. P . .	. .	17 12.07	− 0.095	1.8	1	342 15 21.1	− 13.08	1.8	1
493	B. A. C. 5077	. .	18 0.77	+ 1.734	1.4	1	37 13 45.2	+ 13.02	1.4	1
494	B. A. C. 5076	. .	18 13.29	2.218	1.4	1	49 59 36.6	13.01	1.4	1
495	B. A. C. 5082	. .	19 41.25	3.825	1.5	3	126 20 54.8	12.91	1.5	3
496	O. Arg. N. 15347 . .	. .	15 20 4.39	+ 2.023	1.4	1	44 18 29.6	+ 12.89	1.4	2
497	B. A. C. 5092	. .	21 16.54	1.950	1.4	1	42 31 10.4	12.80	1.4	1
498	B. A. C. 5097	. .	22 17.27	1.328	1.9	2	30 37 0.7	12.74	1.7	3
499	B. A. C. 5097 (Ref.) .	. .	. . .	. .	. .	.	30 36 59.8	12.74	1.5	1
500	Weisse (2) 463 . . .	. .	22 31.87	2.579	1.5	3	64 29 1.2	12.72	1.5	3
501	XV, 11	. .	15 24 31.06	+ 3.626	1.4	1	117 59 55.3	+ 12.58	1.4	1
502	XV, 12	. .	26 1.90	3.569	1.5	1	115 23 43.0	12.48	1.5	1
503	Lalande 28358 . . .	. .	26 7.68	1.407	1.4	2	32 9 5.2	12.47	1.4	2
504	B. A. C. 5118	. .	27 12.94	3.978	1.5	1	130 45 55.5	12.40	1.5	1
505	B. A. C. 5147	. .	29 15.70	0.843	1.5	2	25 23 27.8	12.26	1.5	2

* Close double; Anon.[1] is about 11th mag.

Number.	Name of Star.	Magnitude.	Mean Right Ascension, 1881.1.	Annual Precession 1881.0.	Mean year.	No. of obs.	Mean N. P. Distance. 1881.0.	Annual Precession, 1881.0.	Mean year.	No. of obs.
			h. m. s.	s.			° ′ ″	″		
506	B. A. C. 5150	5.8	15 30 46.51	+ 2.877	1.5	3	79 35 27.3	+ 12.15	1.5	3
507	B. A. C. 5164	. .	31 40.68	1.797	1.4	1	39 54 22.1	12.09	1.4	1
508	O. Arg. S. 14736 . . .	9.0	32 34.16	3.536	1.5	2	113 24 41.8	12.03	1.5	2
509	Bonn VI + 52°, 1886	7.2	32 44.02	1.680	1.5	3	37 32 24.2	12.02	1.5	3
510	42 Libræ	. .	33 14.99	3.537	1.5	2	113 25 48.3	11.98	1.5	2
511	B. A. C. 5177	. .	15 34 27.67	+ 1.910	1.4	1	42 48.5 . .	. .	. .	.
512	B. A. C. 5202	. .	39 45.59	3.913	1.4	1	127 32 17.8	+ 11.52	1.4	1
513	Anonymous	10.5	40 32.73	3.285	1.5	2	100 58 4.1	11.46	1.5	2
514	Lalande (F.) 2683 . .	. .	41 14.77	1.595	1.5	2	36 38 42.6	11.41	1.5	2
515	B. A. C. 5234	. .	43 22.97	2.702	1.5	1	71 29 24.1	11.26	1.5	1
516	B. A. C. 5248	. .	15 44 45.78	+ 1.441	1.4	1	34 15 31.0	+ 11.16	1.4	1
517	B. A. C. 5261	. .	48 3.91	3.739	1.5	1	120 43 58.5	10.92	1.5	1
518	B. A. C. 5267	. .	48 44.82	3.759	1.5	1	121 26 9.5	10.87	1.5	1
519	Lalande 28967	. .	48 55.34	2.896	1.4	2	81 4 5.8	10.85	1.4	2
520	Lalande 28975	. .	49 4.72	2.896	1.4	2	81 3 52.4	10.84	1.4	2
521	B. A. C. 5279	. .	15 49 30.47	+ 1.392	1.5	1	33 49 16.7	+ 10.81	1.5	1
522	XV, 24	7.5	49 54.79	3.714	1.4	1	119 38 48.7	10.78	1.4	1
523	Anonymous	10.5	51 36.32	3.717	1.4	1	119 38 29.5	10.66	1.4	1
524	Tr. Z. 17, 67.	9.5	51 50.18	3.717	1.4	1	119 38 4.4	10.64	1.4	1
525	Weisse 983	. .	53 10.66	2.894	1.4	2	81 5 43.6	10.54	1.4	2
526	Lalande 29122	. .	15 54 22.14	+ 2.892	1.4	2	81 2 29.6	+ 10.45	1.4	2
527	B. A. C. 5310	. .	54 34.08	2.213	1.5	1	53 1 5.4	10.44	1.5	1
528	B. A. C. 5316	. .	55 41.79	+ 1.697	1.5	1	39 46 45.7	10.35	1.5	1
529	B. A. C. 5352	8.0	55 53.04	— 6.687	1.5	2	6 41 44.9	10.34	1.5	2
530	Lalande 29290	. .	15 59 52.07	+ 3.361	1.4	2	103 59 7.4	10.04	1.4	2
531	B. A. C. 5356	7.1	16 1 58.41	+ 3.764	1.5	3	120 44 3.4	+ 9.88	1.5	3
532	B. A. C. 5358	. .	2 14.99	3.835	1.6	1	123 13 40.8	9.86	1.6	1
533	κ^1 Herculis	6.2	2 42.36	2.708	1.4	1	72 38 7.7	9.82	1.4	1
534	κ^2 Herculis	7.0	2 42.81	2.708	1.4	1	72 37 37.3	9.82	1.4	1
535	B. A. C. 5393	. .	6 40.44	3.788	1.5	4	121 21 1.3	9.52	1.5	4
536	B. A. C. 5417	. .	16 7 51.36	+ 1.984	1.6	1	47 19 10.2	+ 9.43	1.6	1
537	B. A. C. 5416	. .	8 34.80	3.764	1.5	1	120 19 15.8	9.37	1.5	1
538	B. A. C. 5435 . . .	7.0	12 0.06	3.777	1.5	3	120 36 41.4	9.10	1.5	3
539	B. A. C. 5435² . . .	6.0	12 1.15	3.777	1.5	3	120 36 59.3	9.10	1.5	3
540	B. A. C. 5437	. .	12 1.55	3.164	1.4	1	94 24 4.9	9.10	1.4	1
541	B. A. C. 5451	. .	16 15 12.94	+ 3.981	1.4	1	127 8.5 . .	. .	. .	.
542	Lalande (F.) 2762 . .	8.3	15 41.40	— 0.461	1.5	2	18 46 6.8	+ 8.82	1.5	2
543	B. A. C. 5471	. .	18 6.85	+ 3.810	1.4	1	121 25 44.0	8.62	1.4	1
544	B. A. C. 5506	. .	23 25.63	3.898	1.5	3	124 4 18.5	8.20	1.5	3
545	Weisse (2) 839	9.2	28 11.99	1.804	1.5	3	44 9 14.4	7.82	1.5	3

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			h. m. s.	s.			° ′ ″	″		
546	Weisse (2) 840 . . .	7.5	16 28 12.33	+ 1.804	1.5	3	44 8 59.1	+ 7.82	1.5	3
547	B. A. C. 5538	. .	28 32.74	3.935	1.6	1	125 0 28.8	7.79	1.6	1
548	B. A. C. 5583	. .	35 30.52	4.152	1.6	1	130 53 25.5	7.23	1.6	1
549	B. A. C. 5584	. .	35 38.68	4.152	1.6	1	130 53 4.7	7.22	1.6	1
550	B. A. C. 5604	. .	36 47.97	2.297	1.8	1	58 10 52.5	7.12	1.6	2
551	B. A. C. 5604 (Ref.) .	. .	. . . .	. .	. .	.	58 10 52.5	+ 7.12	1.5	1
552	B. A. C. 5629	. .	16 40 32.61	+ 1.215	1.4	1	34 5 28.3	6.81	1.4	1
553	B. A. C. 5638	. .	43 48.75	4.054	1.6	1	127 50 29.5	6.54	1.6	1
554	B. A. C. 5640	. .	44 16.70	4.054	1.6	1	127 48 47.4	6.51	1.6	1
555	B. A. C. 5669	. .	46 59.12	3.866	1.5	1	121 59 29.3	6.28	1.5	1
556	B. A. C. 5671	. .	16 47 0.44	+ 3.817	1.6	1	120 23 25.2	+ 6.28	1.6	2
557	B. A. C. 5694	7.4	49 16.25	3.873	1.5	1	122 8 44.7	6.09	1.5	1
558	Weisse 958	. .	52 2.23	3.165	1.6	1	94 9 26.6	5.86	1.6	1
559	B. A. C. 5731	. .	55 44.18	2.297	1.8	2	58 53 52.0	5.55	1.6	5
560	B. A. C. 5731 (Ref.) .	. .	. . . .	. .	. .	.	58 53 51.6	5.55	1.5	3
561	Weisse (2) 1688 . . .	. .	16 55 56.76	+ 2.532	1.5	1	67 11 30.8	+ 5.53	1.5	1
562	O. Arg. N. 16802[1] . .	. .	17 1 42.02	0.854	1.6	1	30 15 31.1	5.05	1.6	1
563	O. Arg. N. 16802[2] . .	. .	1 43.31	0.854	1.6	1	30 15 23.9	5.04	1.6	1
564	B. A. C. 5781	. .	3 33.30	3.434	1.5	1	105 34 35.5	4.89	1.5	1
565	Weisse (2) 114 . . .	6.0	5 41.86	1.946	1.5	3	49 4 24.2	4.71	1.5	3
566	Anonymous	10.0	17 6 24.95	+ 3.634	1.5	1	113 21 27.5	+ 4.65	1.5	1
567	B. A. C. 5823	. .	8 26.98	0.164	1.8	2	24 8 19.7	4.47	1.8	2
568	B. A. C. 5817	. .	9 19.22	3.904	1.6	1	122 31 35.8	4.40	1.6	1
569	B. A. C. 5824	. .	10 35.49	3.902	1.6	1	122 25 20.0	4.29	1.6	1
570	B. A. C. 5833	7.0	11 36.19	3.865	1.6	3	121 13 56.4	4.20	1.6	3
571	Anonymous	11.0	17 11 55.65	+ 3.638	1.5	2	113 24 33.1	+ 4.18	1.5	2
572	Weisse (2) 405 . . .	6.7	15 18.84	2.442	1.5	2	64 20 26.0	3.89	1.5	2
573	Anonymous	10.0	15 58.38	3.632	1.6	2	113 6 27.7	3.83	1.6	2
574	XVII, 4	. .	16 14.54	3.981	1.5	1	124 40 40.3	3.80	1.5	1
575	Lacaille 7268	. .	17 8.75	+ 3.978	1.5	1	124 35 1.4	3.73	1.5	1
576	B. A. C. 5887	. .	17 18 4.34	− 0.953	1.6	2	18 5 3.2	+ 3.65	1.6	2
577	B. A. C. 5893	. .	20.6 . .	. .	. .	.	85 45 18.7	3.43	1.4	1
578	B. A. C. 5893 (Ref.) .	. .	. . . .	. .	. .	.	85 45 19.1	3.43	1.4	1
579	Anonymous	9.3	22 54.38	+ 3.658	1.6	3	113 56 27.6	3.23	1.6	2
580	Anonymous	. .	23 29.20	3.141	1.5	1	92 59 21.8	3.18	1.5	1
581	D. M. − 0°, 3298 . .	7.5	17 23 56.82	+ 3.094	1.6	2	90 56 34.3	+ 3.14	1.6	2
582	B. A. C. 5910	. .	24 16.24	3.095	1.6	4	90 57 47.3	3.11	1.6	3
583	B. A. C. 5938	. .	29 13.86	3.902	1.6	2	122 2 59.9	2.68	1.6	2
584	B. A. C. 5950	. .	29 50.18	1.161	1.6	2	34 44 2.3	2.63	1.6	3
585	B. A. C. 5951	. .	29 55.42	1.162	1.6	3	34 44 43.8	2.62	1.6	3

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			h. m. s.	s.			° ′ ″	″		
586	B. A. C. 5957	. .	17 31 52.07	+ 3.910	1.5	3	122 15 0.2	+ 2.46	1.5	3
587	B. A. C. 5960	. .	32 15.86	3.910	1.6	2	122 7 55.8	2.42	1.6	2
588	Stone 9620	8.0	32 58.41	3.905	1.6	3	122 5 19.8	2.36	1.6	3
589	B. A. C. 5968	. . .	33 53.16	3.904	1.6	2	122 2 52.5	2.28	1.6	2
590	Anonymous	8.5	34 15.21	4.069	1.6	1	126 52 41.6	2.25	1.6	1
591	B. A. C. 5974	. .	17 34 46.32	+ 4.070	1.6	1	126 53 3.8	+ 2.20	1.6	1
592	Lalande 32322 . . .	7.0	35 36.33	2.061	1.5	3	52 43 29.9	2.13	1.5	3
593	O. Arg. S. 17137 . .	9.0	37 18.70	3.755	1.5	2	117 10 26.5	1.98	1.5	2
594	Anonymous	10.3	37 24.96	3.757	1.5	2	117 12 57.1	1.97	1.5	2
595	B. A. C. 5996	. .	37 35.72	2.965	1.8	2	85 22 54.3	1.96	1.8	2
596	Anonymous	8.0	17 37 40.55	+ 3.788	1.6	2	118 16 17.7	+ 1.95	1.6	2
597	O. Arg. S. 17166 . .	8.0	38 23.44	3.755	1.5	2	117 9 53.3	1.89	1.5	2
598	Lalande 32566 . . .	6.5	41 30.13	1.248	1.5	1	36 8 53.3	1.62	1.5	1
599	B. A. C. 6017	. .	41 37.32	3.859	1.6	3	120 33 15.6	1.61	1.6	3
600	B. A. C. 6026[1] . . .	8.5	43 32.96	3.859	1.6	3	120 31 25.0	1.44	1.6	3
601	B. A. C. 6026[2] . . .	7.0	17 43 33.04	+ 3.859	1.6	3	120 31 15.3	+ 1.44	1.6	3
602	B. A. C. 6029	6.4	44 17.62	3.998	1.5	2	124 45 55.0	1.37	1.5	2
603	O. Arg. N. 17522 . .	7.0	44 47.65	1.610	1.5	1	42 22 33.8	1.33	1.5	1
604	B. A. C. 6037	6.2	45 23.79	3.996	1.5	2	124 42 0.6	1.28	1.5	2
605	B. A. C. 6038	. .	45 27.05	4.002	1.6	1	124 51 52.7	1.27	1.6	1
606	B. A. C. 6042[1] . . .	. .	17 45 48.04	+ 3.999	1.5	1	124 45 55.3	+ 1.24	1.5	1
607	B. A. C. 6042[2] . . .	. .	45 49.56	3.998	1.5	2	124 45 24.8	1.24	1.5	2
608	B. A. C. 6045	. .	46 25.78	4.002	1.6	1	124 51 1.5	1.19	1.6	1
609	Lalande 32707 . . .	. .	47 26.49	2.929	1.6	1	83 52 24.7	1.10	1.6	1
610	Weisse (2) 1591 . . .	. .	50 50.76	2.520	1.6	3	67 31 1.1	0.80	1.6	3
611	B. A. C. 6074[1] . . .	. .	17 51 26.83	+ 3.851	1.6	3	120 14 21.8	+ 0.75	1.5	2
612	B. A. C. 6074[2] . . .	. .	51 27.22	3.851	1.6	3	120 14 23.2	0.75	1.5	2
613	Lacaille 7520	. .	52 3.20	4.164	1.6	2	129 14 5.9	0.70	1.6	2
614	B. A. C. 6082	. .	52 10.40	2.056	1.8	2	52 43 58.7	0.69	1.8	2
615	Weisse (2) 1719 . . .	6.5	54 33.23	2.091	1.6	3	53 42 3.4	0.48	1.6	3
616	Weisse (2) 1764 . . .	. .	17 56 14.78	+ 2.197	1.6	4	56 46 52.9	+ 0.33	1.6	4
617	B. A. C. 6103	. .	56 49.70	4.040	1.6	2	125 54 11.2	0.28	1.6	2
618	Weisse (2) 1797 . . .	. .	57 14.39	2.194	1.6	4	56 41 18.0	0.24	1.6	4
619	B. A. C. 6117	. .	17 58 21.37	4.045	1.6	2	126 1 37.1	+ 0.14	1.6	2
620	B. A. C. 6131	. .	18 1 17.22	3.881	1.6	1	121 10 26.9	− 0.11	1.6	1
621	Weisse (2) 1941 . . .	6.8	18 1 23.88	+ 2.230	1.5	1	57 46 44.6	− 0.12	1.5	1
622	B. A. C. 6150	. .	2 54.06	2.340	1.9	1	61 16 11.5	0.25	1.9	1
623	14 Sagittarii	. .	7 7.06	3.605	1.4	1	111 44 34.8	0.62	1.4	1
624	B. A. C. 6193	7.0	9 6.58	2.001	1.5	1	51 15 34.3	0.80	1.5	1
625	Anonymous	9.2	13 35.85	3.461	1.5	1	106 14 57.0	1.19	1.5	1

Number.	Name of Star.	Magnitude.	Mean Right Acsension, 1881.0.	Annual Precession, 1881.0.	Mean year.	No. of obs.	Mean N. P. Distance, 1881.0.	Annual Precession, 1881.0.	Mean year.	No. of obs.
			h. m. s.	s.			° ′ ″	″		
626	Anonymous	9.5	18 13 43.73	+ 3.461	1.5	1	106 13 48.2	— 1.20	1.5	1
627	B. A. C. 6252	. .	18 8.07	1.503	1.6	1	40 19 55.9	1.58	1.6	1
628	B. A. C. 6251	. .	18 37.60	2.542	1.6	1	68 17 0.4	1.63	1.6	1
629	B. A. C. 6256	7.2	19 52.76	3.892	1.6	2	121 35 59.1	1.74	1.6	2
630	Anonymous	8.7	20 20.51	3.893	1.6	3	121 38 3.7	1.78	1.6	3
631	O. Arg. S. 18261 . . .	8.6	18 21 32.39	+ 3.741	1.6	3	116 39 58.8	— 1.88	1.6	3
632	O. Arg. S. 18262 . . .	8.6	21 32.50	3.741	1.6	3	116 39 15.9	1.88	1.6	3
633	B. A. C. 6275	. .	22 12.88	+ 3.941	1.7	2	123 7 24.5	1.94	1.7	2
634	B. A. C. 6302	4.8	23 12.36	— 1.193	1.6	1	17 19 8.7	2.03	1.6	1
635	B. A. C. 6285	. .	23 16.50	+ 3.938	1.7	2	123 3 58.3	2.03	1.7	2
636	Piazzi XVIII, 87 . . .	. .	18 24 35.46	+ 3.936	1.7	2	123 1 16.6	— 2.15	1.7	2
637	Piazzi XVIII, 90 . . .	6.8	25 10.53	4.141	1.5	1	128 48 20.5	2.20	1.5	1
638	Piazzi XVIII, 89 . . .	5.5	25 10.60	4.141	1.5	1	128 48 38.9	2.20	1.5	1
639	B. A. C. 6305	. .	26 9.27	3.938	1.7	1	123 6 10.1	2.28	1.7	1
640	B. A. C. 6308	. .	26 16.95	3.936	1.7	1	123 2 53.0	2.29	1.7	1
641	B. A. C. 6317	. .	18 27 38.80	+ 3.934	1.7	1	122 58 56.9	— 2.41	1.7	1
642	Weisse (2) 794 . . .	6.2	28 16.88	2.292	1.6	2	59 32 4.0	2.47	1.6	2
643	B. A. C. 6336	. .	30 46.93	3.594	1.4	1	111 29 39.5	2.69	1.4	1
644	Lalande 34486	5.0	30 51.94	2.920	1.5	2	83 25 15.0	2.69	1.5	2
645	B. A. C. 6344	. .	31 42.49	3.936	1.7	1	123 5 48.7	2.76	1.7	1
646	Anonymous	10.0	18 31 56.98	+ 3.763	1.6	1	117 33 27.2	— 2.79	1.6	1
647	M. Z. 45, 21	. .	33 6.54	3.766	1.6	1	117 38 53.7	2.89	1.6	1
648	O. Arg. S. 18537 . . .	. .	34 20.27	3.762	1.6	1	117 33 16.9	2.99	1.6	1
649	B. A. C. 6359	. .	35 37.18	4.121	1.7	1	128 26 8.4	3.10	1.7	1
650	O. Arg. S. 18577 . . .	. .	35 54.49	3.537	1.4	1	109 23 47.0	3.13	1.4	1
651	B. A. C. 6362	. .	18 36 21.19	+ 4.023	1.6	3	125 45 25.2	— 3.17	1.6	3
652	Lalande 34853	. .	39 23.40	2.255	1.6	1	58 11 18.6	3.43	1.6	1
653	B. A. C. 6378	5.7	39 25.41	4.199	1.5	3	130 31 51.8	3.43	1.5	3
654	Lamont 77	. .	42 51.21	3.793	1.6	1	118 44 31.6	3.73	1.6	1
655	B. A. C. 6422	. .	45 40.03	3.766	1.6	1	117 53 57.4	3.97	1.6	1
656	B. A. C. 6470	5.7	18 50 16.66	+ 1.486	1.5	2	39 26 21.9	— 4.36	1.5	2
657	B. A. C. 6459	. .	50 42.70	3.862	1.7	1	121 11 26.7	4.40	1.7	1
658	Lalande 35421	6.3	52 57.01	2.670	1.6	3	72 47 52.8	4.59	1.6	3
659	Lalande 35445	5.3	53 34.54	2.608	1.6	2	70 21 59.2	4.65	1.6	2
660	B. A. C. 6491	. .	54 29.47	2.244	1.9	1	57 28 22.5	4.72	1.7	2
661	B. A. C. 6491 (Ref.). .	. .	. . . .	. .	. .	.	57 28 22.1	— 4.72	1.5	1
662	Lalande 35511	. .	18 54 54.54	+ 2.437	1.6	3	63 56 0.2	4.76	1.6	3
663	B. A. C. 6499	. .	18 56 46.60	3.858	1.7	4	121 13 10.7	4.92	1.7	4
664	B. A. C. 6523	. .	19 0 3.88	4.182	1.7	1	130 40 46.3	5.20	1.7	1
665	B. A. C. 6551	6.5	2 14.82	1.350	1.7	2	36 47 8.2	5.38	1.7	2

Number.	Name of Star.	Magnitude.	Mean Right Ascension, 1881.0.	Annual Precession, 1881.0.	Mean year.	No. of obs.	Mean N. P. Distance, 1881.0.	Annual Precession, 1881.0.	Mean year.	No. of obs.
			h. m. s.	s.			° ′ ″	″		
666	Lalande 35851 . . .	6.0	19 2 37.03	+ 2.687	1.5	3	73 19 22.9	— 5.41	1.5	3
667	Lalande (F.) 3154 . .	7.5	6 40.84	— 6.273	1.6	3	7 48 12.4	5.75	1.6	3
668	D. M. + 21°, 3702 . .	9.8	9 2.72	+ 2.578	1.6	1	68 48 44.6	5.95	1.6	1
669	Lalande 36282 . . .	5.5	10 47.45	2.328	1.5	3	59 40 51.4	6.10	1.5	3
670	Lalande 36268[2] . . .	. .	10 59.74	2.747	1.7	1	75 39 54.9	6.11	1.7	1
671	B. A. C. 6594	. .	19 12 46.96	+ 3.867	1.7	1	122 2 7.5	— 6.26	1.7	1
672	Mer. C. Z. 129, 87 . .	9.2	13 2.14	+ 3.627	1.7	4	113 36 28.6	6.28	1.7	4
673	O. Arg. N. 19153 . .	8.5	13 30.00	— 2.318	1.8	1	13 14 41.9	6.32	1.8	1
674	Anonymous	10.7	15 3.60	+ 3.346	1.5	1	102 10 41.8	6.45	1.5	1
675	B. A. C. 6622	. .	15 38.48	4.166	1.7	1	130 50 18.9	6.50	1.7	1
676	Lalande 36489 . . .	5.7	19 16 14.45	+ 3.083	1.6	3	90 28 35.6	— 6.55	1.6	3
677	Anonymous	10.5	17 37.06	3.344	1.5	1	102 9 34.6	6.66	1.5	1
678	B. A. C. 6640	. .	18 5.16	1.101	1.6	1	32 34 47.6	6.70	1.6	1
679	Anonymous	. .	21 15.05	+ 3.192	1.6	1	95 26 49.1	6.96	1.6	1
680	Schwerd 1175	. .	21 33.84	—21.880	1.6	4	2 52 32.6	6.99	1.6	5
681	Lalande 36867 . . .	5.6	19 23 54.16	+ 2.753	1.6	3	75 38 52.3	— 7.18	1.6	3
682	Schwerd 1184	8.8	24 32.52	—27.313	1.7	3	2 21 0.7	7.23	1.7	3
683	B. A. C. 6690	. .	25 55.32	+ 2.419	1.1	3	62 17 19.5	7.34	1.1	3
684	Schwerd 1176	. .	26 5.51	—17.547	1.7	3	3 27 3.8	7.36	1.7	3
685	Anonymous	10.0	30 2.37	+ 4.109	1.6	1	130 0 40.4	7.68	1.6	1
686	Anonymous	10.0	19 30 16.68	+ 3.688	1.8	1	116 30 42.9	— 7.70	1.8	1
687	Anonymous	. .	30 48.09	3.693	1.6	1	116 41 47.8	7.74	1.6	1
688	Anonymous	10.0	31 7.47	3.690	1.7	3	116 37 50.2	7.76	1.7	3
689	Anonymous	8.5	31 34.42	4.106	1.6	1	130 0 56.0	7.80	1.6	1
690	B. A. C. 6728	. .	32 45.25	1.909	1.7	1	46 33 35.2	7.90	1.7	1
691	B. A. C. 6734	. .	19 33.2 . .	. .	. .	.	40 3 15.0	— 7.93	1.6	1
692	B. A. C. 6734 (Ref.) .	. .	. . .	. .	. .	.	40 3 14.0	7.93	1.6	1
693	B. A. C. 6737	. .	33 30.51	+ 0.646	1.7	2	26 49 49.3	7.96	1.7	2
694	Rümker 7771	. .	33 47.47	0.642	1.7	1	26 46 29.2	7.98	1.7	1
695	Lalande 37527 . . .	6.0	38 9.86	2.308	1.7	4	57 51 15.6	8.33	1.7	4
696	Struve (P. M.) 2355[1] .	. .	19 41 2.01	+ 2.277	1.6	1	56 40 20.4	— 8.56	1.6	1
697	Struve (P. M.) 2355[2] .	. .	41 2.19	2.277	1.6	1	56 40 22.8	8.56	1.6	1
698	Lacaille 8249	. .	45 9.81	3.830	1.6	1	122 16 45.9	8.88	1.6	1
699	Weisse (2) 1501 . . .	. .	47 1.19	2.246	1.6	2	65 18 46.0	9.03	1.6	2
700	O. Arg. N. 19720 . .	. .	48 23.93	1.809	1.8	2	43 16 45.3	9.14	1.8	2
701	Anonymous	. .	19 48 58.68	+ 3.823	1.6	1	122 16 22.9	— 9.18	1.6	1
702	B. A. C. 6865	. .	53 29.92	1.641	1.6	3	39 25 2.2	9.53	1.6	3
703	Weisse (2) 1739 . . .	6.5	53 54.79	2.376	1.8	2	59 20 18.4	9.56	1.8	2
704	Lalande 38380 . . .	7.0	58 43.87	2.413	1.8	3	60 25 12.1	9.93	1.8	3
705	Anonymous	10.0	59 19.46	3.314	1.5	1	101 47 18.3	9.98	1.5	1

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			h. m. s.	s.			° ′ ″	″		
706	Weisse (2) 1957 . . .	6.0	19 59 56.19	+ 2.352	1.8	3	58 7 5.9	— 10.02	1.8	3
707	Lalande 38415 . . .	6.7	19 59 58.02	2.755	1.8	3	74 50 20.2	10.02	1.8	3
708	B. A. C. 6905	. .	20 0.2 . .	. . .	. .	.	25 30 43.8	10.04	1.5	1
709	B. A. C. 6905 (Ref.) .	. .	. . .	. .	. .	.	25 30 43.2	10.04	1.5	1
710	Lalande 38554 . . .	. .	2 57.80	2.862	1.5	3	79 37 13.1	10.25	1.5	3
711	Lalande 38591 . . .	. .	20 3 8.12	+ 2.295	1.7	3	55 55 19.5	— 10.26	1.7	3
712	B. A. C. 6922	. .	3 22.82	3.919	1.8	2	126 23 56.2	10.28	1.8	2
713	B. A. C. 6939	6.0	4 22.44	0.283	1.6	3	22 18 56.0	10.36	1.6	3
714	B. A. C. 6977	. .	12 2.13	3.720	1.6	3	119 59 39.1	10.92	1.6	3
715	Weisse 302	. .	13 54.11	+ 2.818	1.6	3	77 9 18.4	11.06	1.6	3
716	B. A. C. 7184	8.5	20 15 5.99	—48.663	1.6	1	1 13 49.1	— 11.15	1.6	1
717	B. A. C. 7025	. .	19 10.40	+ 3.924	1.7	3	127 47 11.8	11.44	1.7	3
718	Weisse (2) 665 . . .	7.2	19 17.25	2.242	1.8	3	52 54 26.1	11.45	1.8	3
719	Lalande 39329 . . .	. .	20 24.83	2.652	1.6	3	68 58 38.5	11.53	1.6	3
720	B. A. C. 7036	. .	21 8.53	3.865	1.8	3	125 59 14.8	11.58	1.8	3
721	B. A. C. 7051	8.2	20 21 29.72	+ 1.032	1.8	3	28 7 5.8	— 11.61	1.8	3
722	B. A. C. 7048	. .	21 46.85	2.158	1.8	3	49 59 16.3	11.63	1.8	3
723	B. A. C. 7060	. .	22 37.06	1.249	1.6	3	30 47 20.6	11.69	1.6	3
724	B. A. C. 7105	. .	28 52.03	1.472	1.6	3	33 37 27.2	12.13	1.6	3
725	B. A. C. 7143	. .	33 20.87	2.612	1.7	2	66 18 4.0	12.44	1.7	2
726	B. A. C. 7153	6.5	20 33 50.03	+ 1.705	1.6	3	37 26 31.8	— 12.47	1.6	3
727	B. A. C. 7149	. .	34.1 . .	. .	. .	.	74 30 26.6	12.49	1.7	3
728	B. A. C. 7149 (Ref.) .	. .	. . .	. .	. .	.	74 30 25.9	12.49	1.7	3
729	Lalande 39951 . . .	6.5	34 59.56	2.619	1.7	1	66 29 28.6	12.55	1.7	1
730	Weisse (2) 1193 . . .	6.7	35 53.64	2.102	1.7	3	46 57 38.3	12.61	1.7	3
731	B. A. C. 7166	6.3	20 35 55.52	+ 1.556	1.8	3	34 24 50.3	— 12.62	1.8	3
732	γ^1 Delphini	. .	41 7.45	2.786	1.8	1	74 18 13.4	12.97	1.8	1
733	γ^2 Delphini	. .	41 8.16	2.786	1.8	1	74 18 14.1	12.97	1.8	1
734	B. A. C. 7220	. .	42 52.07	1.216	1.5	1	28 37 24.2	13.08	1.5	1
735	B. A. C. 7220 (Ref.) .	. .	. . .	. .	. .	.	28 37 22.5	13.08	1.5	1
736	B. A. C. 7219	. .	20 43 16.04	+ 2.056	1.6	2	44 51 25.4	— 13.11	1.6	2
737	B. A. C. 7212	. .	43 22.10	3.873	1.7	3	128 21 16.8	13.11	1.7	3
738	O. Arg. N. 21126* . .	5.3	43 54.24	1.975	1.8	4	42 36 24.0	13.15	1.8	4
739	B. A. C. 7226	. .	44 35.23	3.742	1.8	3	123 37 19.6	13.19	1.8	3
740	O. Arg. N. 21161[1] . .	7.1	45 7.25	1.811	1.8	4	38 31 51.7	13.23	1.8	4
741	O. Arg. N. 21161[2] . .	8.8	20 45 7.52	+ 1.811	1.8	2	38 31 51.3	— 13.23	1.8	2
742	B. A. C. 7234	. .	45 55.61	3.920	1.7	1	130 15 14.5	13.28	1.7	1
743	Weisse (2) 1483 . . .	. .	47 1.86	2.756	1.6	3	72 25 11.0	13.36	1.6	3
744	B. A. C. 7256	. .	49.5 . .	. .	. .	.	62 23 40.7	13.52	1.8	1
745	B. A. C. 7256 (Ref.) .	. .	. . .	. .	. .	.	62 23 40.5	13.52	1.8	1

* This star perhaps variable. See H. P. 3657 and O. Arg. N. 21126.

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			h. m. s.	s.			° ′ ″	″		
746	Taylor 9666	. .	20 49 47.30	+ 4.044	1.8	3	134 33 14.0	— 13.53	1.8	3
747	B. A. C. 7280	. .	53 59.50	3.696	1.7	3	122 43 19.3	13.80	1.7	3
748	B. A. C. 7286	. .	54 49.15	3.855	1.7	4	128 59 30.5	13.86	1.7	4
749	Lalande 40682 . . .	. .	55 1.36	2.742	1.7	2	71 7 57.0	13.87	1.7	2
750	B. A. C. 7292	. .	20 55 21.57	3.854	1.7	3	129 5 42.4	13.89	1.7	3
751	Lalande 40951 . . .	. .	21 1 30.68	+ 2.515	1.6	4	59 17 31.6	— 14.27	1.6	3
752	61² Cygni	. .	1 35.58	2.335	1.7	4	51 50 14.2	14.28	1.7	4
753	B. A. C. 7353	. .	5 26.08	3.844	1.6	3	129 54 28.3	14.51	1.6	3
754	Lacaille 8760* . . .	5.0	10 17.04	3.811	1.6	4	129 19 33.5	14.80	1.6	4
755	B. A. C. 7398	. .	12 44.62	2.353	1.8	1	51 6 11.9	14.95	1.8	1
756	Anonymous	. .	21 14 57.35	+ 3.432	1.7	1	112 13 25.7	— 15.07	1.7	1
757	Bonn VI + 79°, 699 .	. .	15 55.24	— 1.827	1.6	3	10 9 14.6	15.13	1.6	3
758	Anonymous	11.0	18 25.72	+ 3.423	1.7	1	112 2 43.0	15.27	1.7	1
759	Σ (P. M.) 2603 (med.)	. .	22 3.03	— 1.672	1.6	5	10 9 30.1	15.48	1.6	5
760	O. Arg. N. 22275 . .	5.7	22 38.14	+ 2.120	1.7	3	41.40 55.4	15.51	1.7	3
761	Weisse (2) 536 . . .	. .	21 23 33.50	+ 2.737	1.8	3	68 20 23.8	— 15.56	1.8	3
762	B. A. C. 7477	7.0	24 44.46	2.268	1.8	2	46 10 57.5	15.62	1.8	2
763	B. A. C. 7475	6.7	25 2.62	3.647	1.8	4	124 28 5.1	15.64	1.8	4
764	Weisse 557	6..4	25 24.32	2.901	1.9	3	78 23 5.5	15.66	1.9	3
765	B. A. C. 7489	6.3	27 27.61	+ 2.012	1.8	4	37 54 18.3	15.77	1.8	4
766	Groombridge 3511 . .	. .	21 28 17.75	— 1.590	1.8	3	9 59 40.1	— 15.82	1.8	3
767	O. Arg. N. 22436 . .	6.0	28 44.39	+ 2.114	1.6	3	40 32 59.9	15.84	1.6	3
768	B. A. C. 7621	. .	46 22.81	+ 1.401	1.6	3	23 45 40.7	16.74	1.6	3
769	Schwerd 1292	9.2	48 39.50	— 7.302	1.6	3	3 59 47.6	16.85	1.6	3
770	Schwerd 1294	8.8	49 14.46	— 8.594	1.7	3	3 32 27.0	16.88	1.7	3
771	B. A. C. 7635	5.3	21 49 51.09	+ 3.640	1.6	2	128 18 41.2	— 16.91	1.6	2
772	B. A. C. 7643	. .	50.9 . .	. .	. .	.	33 57 7.7	16.96	1.8	5
773	B. A. C. 7643 (Ref.) .	. .	. . .	. .	. .	.	33 57 8.1	16.96	1.8	5
774	B. A. C. 7647	. .	21 52 6.10	+ 3.645	1.8	2	128 57 46.8	17.01	1.8	2
775	B. A. C. 7702	5.7	22 1 27.96	+ 3.529	1.7	4	124 37 23.5	17.43	1.7	3
776	Schwerd 1302	8.9	22 2 40.43	—10.432	1.6	3	2 46 35.8	— 17.48	1.6	3
777	Lacaille 9036	6.8	2 58.58	+ 3.523	1.7	4	124 35 56.2	17.50	1.7	4
778	B. A. C. 7749	. .	6 43.66	2.073	1.6	1	32 23 6.9	17.65	1.7	4
779	B. A. C. 7749 (Ref.) .	. .	. . .	. .	. .	.	32 23 6.1	17.65	1.8	3
780	B. A. C. 7795	. .	15 30.66	3.093	1.6	1	91 59 12.5	18.01	1.6	1
781	Weisse (2) 496 . . .	. .	22 23 35.70	+ 2.804	1.6	3	63 50 41.9	— 18.31	1.6	4
782	Weisse (2) 496 (Ref.) .	. .	. . .	. .	. .	.	63 50 41.3	18.31	1.8	1
783	B. A. C. 7842	. .	24 44.31	3.422	1.7	1	122 57 19.3	18.35	1.7	1
784	B. A. C. 7872	. .	29 53.50	3.396	1.7	2	122 16 42.4	18.52	1.7	2
785	Piazzi XXII, 154 . .	. .	29 57.07	3.396	1.7	2	122 15 28.8	18.53	1.7	2

* This star has a proper motion of about —0ˢ.28 and + 1″.2.

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			h. m. s.	s.			° ′ ″	″		
786	B. A. C. 7895	. .	22 33 43.87	+ 3.371	1.7	1	121 16 19.4	— 18.65	1.7	1
787	B. A. C. 7906	. .	35 17.83	2.612	1.6	3	46 20 40.2	18.70	1.6	3
788	B. A. C. 7909	. .	35 44.91	3.350	1.7	3	119 58 57.2	18.71	1.7	3
789	B. A. C. 7923	. .	37 27.61	2.805	1.8	1	60 24 4.0	18.77	1.8	5
790	B. A. C. 7923 (Ref.) .	. .	. . .	. .	. .	.	60 24 3.8	18.77	1.8	4
791	B. A. C. 7944	6.5	22 41 1.13	+ 3.436	1.7	2	128 50 47.6	— 18.87	1.7	2
792	Bradley 3011[1]	. .	41 41.84	3.110	1.8	4	94 50 46.6	18.89	1.8	5
793	Bradley 3011[2]	. .	41 42.12	3.110	1.8	4	94 50 45.6	18.89	1.8	5
794	Piazzi 220	. .	41 44.27	3.110	1.8	4	94 51 22.7	18.90	1.8	5
795	B. A. C. 7957	5.7	44 15.66	3.434	1.7	2	129 47 11.9	18.97	1.7	2
796	B. A. C. 7966	. .	22 45 54.60	+ 3.354	1.8	3	123 30 22.6	— 19.02	1.8	3
797	B. A. C. 7987	. .	49 21.35	3.338	1.7	3	123 10 30.3	19.11	1.7	3
798	B. A. C. 7998	. .	51 57.44	3.358	1.8	3	126 9 23.3	19.18	1.8	3
799	B. A. C. 8002	. .	53 5.26	3.296	1.7	3	120 5 59.2	19.20	1.7	3
800	Groombridge 3940 . .	6.7	54 1.34	2.586	1.7	4	37 59 2.9	19.23	1.7	4
801	3 Piscium	. .	22 54 31.80	+ 3.075	1.8	2	90 27 9.5	— 19.24	1.8	2
802	O. Arg. N. 24991 . .	5.3	55 4.45	2.512	1.9	3	33 41 34.9	19.25	1.9	3
803	B. A. C. 8025	. .	56 54.64	3.330	1.8	2	125 23 32.6	19.30	1.8	2
804	Anonymous	10.7	57 3.97	3.129	1.6	1	98 48 15.0	19.30	1.6	1
805	B. A. C. 8032	. .	58.0 . .	. .	. .	.	62 33 46.3	19.32	1.6	1
806	B. A. C. 8032 (Ref.) .	. .	. . .	. .	. .	.	62 33 45.2	— 19.32	1.6	1
807	B. A. C. 8045	. .	23 0 15.96	+ 3.357	1.8	3	129 32 7.8	19.38	1.8	3
808	B. A. C. 8068	. .	3 7.83	2.412	1.8	3	26 25 17.7	19.45	1.8	3
809	B. A. C. 8115	6.2	12 21.20	2.798	1.8	2	45 9 38.8	19.62	1.8	2
810	B. A. C. 8113	. .	12 23.85	3.253	1.8	3	123 10 48.2	19.62	1.8	3
811	Piazzi XXIII, 41 . .	7.0	23 12 50.95	+ 3.141	1.8	5	104 6 8.8	— 19.63	1.8	5
812	Piazzi XXIII, 42 . .	5.0	12 51.14	3.141	1.8	5	104 6 22.9	19.63	1.8	5
813	B. A. C. 8201	. .	26 35.30	3.227	1.8	2	128 28 33.5	19.84	1.8	2
814	B. A. C. 8206	. .	28 3.14	2.962	1.9	1	59 19 54.5	19.86	1.9	2
815	B. A. C. 8206 (Ref.) .	. .	. . .	. .	. .	.	59 19 53.3	19.86	1.9	1
816	B. A. C. 8268	. .	23 41 14.85	+ 2.898	1.9	3	132 0 40.5	— 19.99	1.9	4
817	B. A. C. 8343	. .	55 34.88	3.095	1.8	3	130 48 40.1	20.05	1.8	3
818	B. A. C. 8348	. .	55 49.33	3.091	1.8	3	127 53 30.0	20.05	1.8	3
819	B. A. C. 8352	. .	56 13.86	3.085	1.8	3	120 23 1.0	20.05	1.8	3
820	B. A. C. 8357	. .	23 57 20.21	+ 3.084	1.8	1	126 54 49.4	— 20.05	1.8	1

RIGHT ASCENSIONS, NORTH-POLAR DISTANCES, AND SEMI-DIAMETERS

OF THE

SUN, MOON, AND PLANETS

DEDUCED FROM

OBSERVATIONS WITH THE TRANSIT CIRCLE

AND

COMPARED WITH THE TABLES.

1881.

RIGHT ASCENSIONS, NORTH-POLAR DISTANCES, AND SEMI-DIAMETERS

OF THE

SUN, MOON, AND PLANETS.

SUN.

Date.	Observer.	Limb.	Apparent Right Ascension of Center.	Corr'n to Am. Eph.	Sidereal time of Transit of Semi-diameter.	Corr'n to Am. Eph.	Limb.	Geocentric N. P. Distance of Center.	Corr'n to Am. Eph.	Vertical Semi-diameter.	Corr'n to Am. Eph.
881.			h. m. s.	s.	m. s.	s.		° ′ ″	″	′ ″	″
. 18	R.	.	20 3 51.22	+ 0.05	1 9.78	+ 0.03	.	110 24 26.6	+ 0.1	16 17.4	— 0.2
24	W.	.	20 29 8.33	+ 0.14	1 8.95	— 0.15	.	109 2 41.9	+ 0.3	14.5	— 2.5
27	R.	.	20 41 36.42	+ 0.16	1 8.71	— 0.06	.	108 17 0.5	— 0.4	16.6	0.0
28	W.	.	20 45 44.04	+ 0.03	1 8.56	— 0.09	.	108 1 6.7	— 0.6	13.1	— 3.4
. 4	R.	.	21 14 15.12	— 0.02	1 7.81	— 0.04	.	106 1 15.4	+ 2.2	15.1	— 0.3
5	W.	.	21 18 16.45	+ 0.20	1 7.68	— 0.05	.	105 42 58.3	+ 1.8	14.4	— 0.9
12	R.	.	21 46 1.34	+ 0.12	1 6.80	— 0.15	.	103 27 58.9	+ 3.7	13.5	— 0.5
14	E.	.	21 53 49.98	+ 0.06	1 6.76	+ 0.02	.	102 47 16.1	— 0.1	13.2	— 0.4
16	R.	.	22 1 35.74	+ 0.06	1 6.43	— 0.11	.	102 5 48.1	+ 0.5	12.4	— 0.8
17	W.	.	22 5 27.71	+ 0.21	1 6.30	— 0.14	.	101 44 47.6	+ 1.8	13.8	+ 0.8
24	R.	.	22 32 12.19	+ 0.07	1 5.68	— 0.10	.	99 12 43.3	+ 1.1	11.5	+ 0.1
25	W.	.	22 35 58.99	+ 0.05	1 5.59	— 0.11	.	98 50 21.9	— 0.3	9.8	— 1.4
26	E.	.	22 39 45.32	+ 0.11	1 5.71	+ 0.10	.	98 27 58.0	+ 3.6	9.6	— 1.3
r. 7	S.	.	23 13 18.83	+ 0.03	1 4.96	— 0.04	.	95 0 59.0	+ 0.8	7.6	— 1.1
8	R.	.	23 17 0.57	+ 0.27	1 4.90	— 0.04	.	94 37 36.1	+ 1.8	5.0	— 3.5
11	S.	.	23 28 2.64	+ 0.06	1 4.72	— 0.07	.	93 27 5.6	+ 1.8	6.8	— 0.9
15	E.	.	23 42 41.23	— 0.09	1 4.64	0.00	.	91 52 33.2	+ 1.3	4.2	— 2.4
24	R.	.	0 15 27.71	— 0.08	1 4.36	— 0.11	.	88 19 29.2	+ 1.1	2.0	— 2.2
25	W.	.	0 19 5.83	— 0.07	1 4.36	— 0.10	.	87 55 55.9	+ 1.9	2.0	— 1.9
28	R.	.	0 30 0.26	— 0.05	1 4.42	— 0.05	.	86 45 29.6	+ 0.7	16 2.4	— 0.6
ril 11	E.	.	1 21 6.92	— 0.11	1 4.84	+ 0.01	.	81 26 51.1	— 3.1	15 58.8	— 0.4
15	E.	II	1 35 51.47	0.00	. . .	. .	.	80 0 21.8	+ 0.4	56.7	— 1.5
23	E.	.	2 5 39.02	— 0.10	1 5.47	— 0.05	.	77 15 29.3	+ 1.1	54.8	— 1.6
26	W.	.	2 16 57.10	— 0.08	1 5.65	— 0.08	.	76 16 57.1	+ 2.3	53.0	— 2.3
28	S.	.	2 24 31.81	+ 0.05	1 5.82	— 0.06	.	75 39 1.6	+ 2.1	52.6	— 2.2
30	W.	.	2 32 8.31	— 0.11	1 5.95	— 0.08	.	75 2 2.8	+ 1.9	54.0	— 0.3
ay 9	E.	.	3 6 49.98	+ 0.01	1 6.67	— 0.09	.	72 28 29.6	+ 1.8	51.0	— 1.3
10	S.	.	3 10 44.02	+ 0.01	1 6.74	— 0.10	.	72 12 48.5	+ 0.4	51.5	— 0.6
12	W.	.	3 18 33.79	— 0.01	1 6.91	— 0.10	.	71 42 21.9	— 0.4	50.1	— 1.6
25	E.	II	4 10 22.93	— 0.06	1 . .	. .	.	. . . .	. .	. .	. .
27	R.	.	4 18 29.42	— 0.04	1 8.06	— 0.09	.	68 35 45.8	+ 3.2	48.5	— 0.5
28	W.	.	4 22 33.32	— 0.08	1 8.10	— 0.11	.	68 26 6.8	+ 2.1	47.8	— 1.0
31	R.	.	4 34 47.82	— 0.04	1 8.24	— 0.15	.	67 59 28.9	+ 2.7	46.4	— 2.0
ne 11	S.	.	5 20 7.56	+ 0.02	1 8.80	— 0.06	.	66 51 49.2	+ 3.4	46.8	— 0.4
16	R.	.	5 40 52.85	— 0.11	1 8.90	— 0.06	.	66 37 9.0	+ 1.3	45.8	— 0.9
18	E.	.	5 49 11.94	— 0.03	1 8.92	— 0.06	.	66 34 11.4	+ 2.1	45.6	— 1.0
20	R.	.	5 57 31.15	— 0.05	1 8.83	— 0.15	.	66 32 51.6	+ 1.5	46.0	— 0.5
21	W.	.	6 1 40.94	+ 0.10	1 8.86	— 0.12	.	66 32 48.8	+ 1.0	44.5	— 0.9
24	R.	.	6 14 9.41	— 0.11	1 8.89	— 0.06	.	66 35 11.9	+ 2.1	47.8	+ 1.5
30	E.	.	6 39 3.41	— 0.06	1 8.86	+ 0.06	.	66 51 2.2	+ 1.7	44.8	— 1.3
y 2	R.	.	6 47 19.62	— 0.02	1 8.66	— 0.06	.	66 59 34.7	+ 2.2	45.6	— 0.5
5	S.	.	6 59 41.53	— 0.05	1 8.52	— 0.08	.	67 15 22.2	+ 1.8	45.2	— 1.0
7	W.	.	7 7 54.35	— 0.06	1 8.34	— 0.16	.	67 27 53.0	+ 2.2	45.4	— 0.8
8	E.	.	7 12 0.25	+ 0.01	1 8.36	— 0.10	.	67 34 43.0	+ 1.8	45.1	— 1.2
11	W.	.	7 24 15.12	— 0.05	1 8.20	— 0.06	.	67 57 33.4	+ 2.6	45.6	— 0.8
14	R.	.	7 36 26.00	— 0.05	1 7.96	— 0.10	.	68 23 46.9	+ 2.3	46.3	— 0.2
16	E.	.	7 44 30.86	— 0.04	1 7.90	— 0.02	.	68 43 7.3	+ 2.2	45.3	— 1.3
18	R.	I	7 52 33.68	— 0.07	. . .	. .	.	69 3 54.0	+ 1.6	46.7	0.0
19	W.	.	7 56 34.36	— 0.04	1 7.58	— 0.11	.	69 14 49.2	+ 1.1	46.4	— 0.4
23	W.	.	8 12 31.59	+ 0.04	1 7.22	— 0.14	.	70 2 1.4	+ 2.5	15 45.5	— 1.6

SUN.

Date.	Observer.	Limb.	Apparent Right Ascension of Center.	Corr'n to Am. Eph.	Sidereal time of Transit of Semi-diameter.	Corr'n to Am. Eph.	Limb.	Geocentric N. P. Distance of Center.	Corr'n to Am. Eph.	Vertical Semi-diameter.	Corr'n to Am. Eph.
1881.			h. m. s.	s.	m. s.	s.		° ′ ″	″	′ ″	″
July 26	R.	.	8 24 23.40	− 0.02	1 7.06	− 0.06	.	70 40 55.1	+ 1.8	15 46.8	− 0.6
28	E.	.	8 32 14.98	− 0.05	1 6.94	− 0.01	.	71 8 27.2	+ 1.3	45.5	− 2.1
Aug. 3	R.	.	8 55 35.03	+ 0.02	1 6.34	− 0.08	.	72 38 22.5	+ 2.3	47.3	− 1.1
8	W.	.	9 14 44.72	+ 0.02	1 5.83	− 0.17	.	74 1 3.8	+ 3.0	49.8	+ 0.7
11	R.	.	9 26 7.25	− 0.15	1 5.64	− 0.11	.	74 53 44.9	+ 0.5	48.4	− 1.2
15	R.	.	9 41 9.92	− 0.04	1 5.27	− 0.16	.	76 7 25.5	+ 0.8	49.6	− 0.7
20	W.	I	9 59 46.83	+ 0.04	. . .	. .	.	77 44 30.9	+ 3.5	49.9	− 0.3
23	R.	.	10 10 51.31	− 0.03	1 4.80	− 0.08	.	78 45 6.7	+ 2.4	52.1	+ 0.3
27	R.	.	10 25 31.52	− 0.04	1 4.54	− 0.10	.	80 8 23.3	+ 1.4	51.3	− 1.4
31	R.	II	10 49 5.72	0.00	. . .	. .	.	81 34 11.3	+ 2.3	52.7	− 0.9
Sept. 24	R.	.	12 6 28.46	+ 0.10	1 4.01	− 0.13	.	90 42 7.3	− 0.2	15 58.3	− 1.4
Oct. 10	R.	.	13 4 37.26	+ 0.02	1 4.82	− 0.09	.	96 52 59.6	+ 0.3	16 1.7	− 2.9
11	W.	.	13 8 18.55	+ 0.05	1 4.89	− 0.09	.	97 15 41.7	+ 3.5	5.2	+ 0.1
14	R.	.	. . . .	. .	. . .	. .	.	98 22 59.4	+ 0.8	5.1	− 0.0
17	S.	.	13 29 37.54	+ 0.08	1 5.38	− 0.09	.	99 29 15.8	− 0.4	4.8	− 1.3
18	R.	.	13 34 22.83	+ 0.12	1 5.40	− 0.16	.	99 51 6.6	+ 0.5	5.2	− 1.1
19	W.	.	13 38 8.52	− 0.08	1 5.61	− 0.04	.	100 12 48.4	+ 0.9	5.5	− 1.1
20	E.	.	13 41 55.04	− 0.10	1 5.78	+ 0.04	.	100 34 21.1	+ 1.1	7.1	+ 0.[illegible]
21	S.	.	13 45 42.28	− 0.06	1 5.75	− 0.09	.	100 55 43.5	+ 0.4	5.7	− 1.[illegible]
22	R.	.	13 49 30.21	− 0.01	1 5.85	− 0.09	.	101 16 55.2	− 1.3	6.0	− 1.[illegible]
25	S.	.	14 0 58.05	+ 0.01	1 6.17	− 0.08	.	102 19 33.5	− 0.1	7.4	− 0.[illegible]
Nov. 4	W.	.	14 39 59.06	+ 0.08	1 7.28	− 0.09	.	105 34 54.5	+ 3.0	9.9	− 0.[illegible]
14	S.	.	15 20 21.74	+ 0.14	1 8.43	− 0.13	.	108 24 25.4	+ 0.6	11.5	− 1.[illegible]
15	R.	.	15 24 28.66	+ 0.04	1 8.59	− 0.09	.	108 39 42.6	+ 0.7	12.2	− 1.[illegible]
16	W.	.	15 28 36.53	+ 0.03	1 8.68	− 0.11	.	108 54 39.9	+ 0.6	11.4	− 2.[illegible]
17	E.	.	15 32 45.28	+ 0.04	1 8.86	− 0.05	.	109 9 18.0	+ 1.6	13.4	− 0.[illegible]
25	E.	.	16 6 24.33	− 0.26	1 9.86	+ 0.08	.	110 53 20.4	+ 0.4	14.9	− 0.[illegible]
28	W.	.	16 19 14.51	+ 0.18	1 9.96	− 0.12	.	111 26 5.2	+ 1.9	15.1	− 0.[illegible]
Dec. 2	W.	.	16 36 30.01	+ 0.04	1 10.36	− 0.08	.	112 3 57.1	− 0.5	14.9	− 1.[illegible]
9	R.	.	17 7 4.39	+ 0.06	1 10.90	− 0.03	.	112 53 44.7	− 0.4	16.5	− 0.[illegible]
16	S.	.	17 37 59.95	+ 0.13	1 11.22	0.00	.	113 21 28.9	+ 3.5	17.6	− 0.1
17	R.	.	17 42 25.88	− 0.14	1 11.10	− 0.14	.	113 23 30.5	− 0.6	17.1	− 0.7
19	E.	.	17 51 18.84	− 0.08	1 11.24	+ 0.04	.	113 26 19.6	+ 1.7	18.5	+ 0.6
24	S.	.	18 13 32.21	− 0.10	1 11.31	. .	.	113 25 3.3	+ 3.2	16 18.8	+ 0.6
31	E.	I	18 44 34.18	− 0.12	. . .	. .	N.	113 3 26.1	− 2.0	. .	. .

MOON.

Date.	Mean Time of Transit of Center.	Observer.	Limb.	Apparent Right Ascension of Center.	Correction to Tables of— Peirce.	Correction to Tables of— Hansen.	Limb.	Geocentric N. P. Distance of Center.	Correction to Tables of— Peirce.	Correction to Tables of— Hansen.
1881.	h. m. s.			h. m. s.	s.	s.		° ′ ″	″	″
23	18 46 20.2	R.	II	15 2 5.97	+ 0.77	— 0.98	S.	110 31 37.3	+ 1.2	— 1.8
b. 4	4 57 59.7	R.	I	1 58 48.02	— 0.14	— 0.52	S.	73 30 10.1	+ 3.4	+ 1.6
5	5 46 51.4	W.	I	2 51 44.34	— 0.45	— 0.62	S.	70 5 56.2	+ 4.7	+ 2.1
6	6 36 16.4	E.	I	3 45 13.98	— 0.63	— 0.63	S.	67 45 15.7	+ 3.7	+ 1.1
16	14 16 2.8	R.	II	12 5 41.42	— 0.31	— 0.85	S.	96 2 58.5	— 0.7	— 4.9
rch 6	5 18 39.2	E.	I	4 17 47.56	— 0.44	— 0.43	S.	67 8 21.0	+ 3.0	— 0.7
7	6 8 58.1	S.	I	5 12 11.30	— 0.60	— 0.43	S.	66 37 9.2	+ 1.2	— 1.3
10	8 33 10.1	E.	I	7 48 36.57	— 0.76	— 0.59	N.	71 38 32.0	— 2.9	— 2.8
11	9 18 17.9	S.	I	8 37 48.33	— 0.46	— 0.39	N.	75 8 31.1	— 7.9	— 7.9
13	10 45 34.9	W.	I	10 13 12.80	— 0.14	— 0.37	S.	84 0 40.5	— 4.8	— 6.8
23	19 25 26.3	S.	II	19 33 55.10	+ 0.40	— 1.18	.	. . .	. .	. .
ril 2	3 8 25.5	W.	I	3 53 39.36	— 0.09	— 0.27	.	. . .	. .	. .
5	5 39 18.2	R.	I	6 36 46.52	— 0.46	— 0.19	N.	68 24 38.5	+ 1.2	+ 0.4
10	9 22 40.5	W.	I	10 40 28.26	— 0.37	— 0.39	N.	87 0 47.6	+ 2.1	+ 2.9
22	20 0 50.0	W.	II	22 7 41.25	+ 0.25	— 0.97	N.	96 18 10.0	+ 4.7	+ 10.3
30	1 49 53.5	W.	I	4 25 17.93	— 0.30	— 0.33	.	. . .	. .	. .
y 1	2 41 12.2	E.	I	5 20 41.63	— 0.53	— 0.46	.	. . .	. .	. .
7	7 15 52.2	R.	.	. . . .	. .	. .	N.	85 1 35.5	— 4.3	— 1.2
8	7 58 44.0	W.	I	11 6 41.52	— 0.58	— 0.34	N.	89 56 57.6	— 5.4	— 3.0
9	8 42 52.2	E.	I	11 54 53.50	— 0.49	— 0.42	N.	95 0 22.3	— 2.9	— 2.2
12	11 12 31.8	W.	.	. . . .	. .	. .	S.	108 32 49.8	+ 2.0	— 0.1
24	22 0 45.0	E.	II	2 14 5.76	— 0.27	— 0.84	.	. . .	. .	. .
31	3 0 19.9	R.	I	7 38 9.19	— 0.81	— 0.49	N.	71 32 58.7	+ 4.4	+ 3.1
ne 8	8 57 41.7	R.	I	14 8 2.17	— 0.28	— 0.60	N.	106 45 56.8	+ 0.3	— 2.1
11	11 54 50.9	W.	I, II	17 17 30.07	— 0.04	— 0.88	N. S.	112 54 29.7	+ 1.2	+ 1.4
12	12 58 1.0	R.	II	18 24 47.16	+ 0.06	— 0.92	N.	111 43 55.8	+ 1.0	+ 3.5
y 2	4 31 40.4	R.	I	11 15 54.56	— 0.46	— 0.32	N.	90 57 0.0	— 1.7	— 2.3
3	5 14 17.4	W.	I	12 2 35.07	— 0.35	— 0.30	N.	95 48 13.6	+ 0.3	— 0.4
5	6 46 35.7	S.	I	13 43 1.71	— 0.42	— 0.54	N.	104 54 0.5	+ 1.1	— 0.3
8	9 34 25.9	E.	I	16 43 9.07	— 0.58	— 0.95	.	. . .	. .	. .
9	10 37 9.8	S.	I	17 49 59.83	— 0.30	— 0.80	N.	112 43 9.2	+ 2.5	+ 1.7
10	11 40 15.1	R.	I	18 57 12.06	— 0.08	— 0.71	N.	110 32 59.3	+ 2.4	+ 3.6
11	12 41 31.8	W.	.	. . . .	. .	. .	N.	106 57 13.1	+ 3.1	+ 6.4
18	18 44 52.2	R.	II	2 34 31.38	+ 0.12	— 0.89	N.	71 39 41.4	+ 3.2	+ 5.1
g. 3	6 22 27.9	R.	I	15 13 10.02	— 0.51	— 0.51	N.	110 13 1.6	— 6.9	— 7.0
4	7 18 50.1	W.	I	16 13 38.08	— 0.49	— 0.81	N.	112 12 33.4	+ 1.2	+ 0.8
5	8 18 31.7	E.	I	17 17 25.98	— 0.56	— 0.87	N.	112 46 26.5	+ 1.8	+ 1.1
8	11 21 17.5	W.	I	20 32 31.55	— 0.49	— 0.85	N.	104 48 34.5	+ 4.4	+ 5.7
11	14 5 48.8	R.	II	23 29 19.53	— 0.65	— 1.12	N.	87 51 2.8	+ 1.5	+ 2.1
19	20 50 46.0	R.	II	6 46 55.62	— 0.39	— 0.70	.	. . .	. .	. .
t. 5	10 1 32.9	R.	I	21 2 57.27	— 0.33	— 0.70	S.	102 16 44.3	+ 5.9	+ 8.3
1	6 54 34.6	S.	I	19 37 58.65	— 0.13	— 0.82	S.	108 4 59.0	— 2.1	+ 1.8
6	11 21 10.1	R.	I	0 25 0.74	— 0.37	— 0.73	N.	82 24 52.6	+ 4.5	+ 6.1
15	18 58 31.1	W.	II	8 39 5.83	— 0.76	— 0.73	S.	76 5 23.8	— 1.5	— 2.5
17	20 23 54.7	S.	II	10 12 36.53	— 0.69	— 0.64	.	. . .	. .	. .
19	21 48 52.8	E.	II	11 45 41.70	— 0.54	— 0.60	.	. . .	. .	. .
25	1 57 42.2	S.	I	16 14 54.71	— 0.62	— 0.77	.	. . .	. .	. .
v. 5	11 47 6.5	E.	I, II	2 49 18.35	— 0.39	— 0.85	N.	71 30 44.8	+ 0.5	+ 0.6
13	18 18 20.6	E.	II	9 53 8.80	— 0.44	— 0.44	S.	82 38 35.4	— 3.1	— 2.2
14	19 0 5.6	S.	II	10 38 57.23	— 0.64	— 0.53	S.	87 7 52.1	— 10.5	— 8.9
15	19 42 7.6	R.	II	11 25 2.67	— 0.86	— 0.67	S.	91 48 0.5	— 6.2	— 4.3
25	3 40 49.2	E.	I	20 0 31.88	— 0.16	— 0.77	S.	106 26 22.4	+ 1.9	+ 4.1
27	5 27 32.6	R.	I	21 55 26.01	+ 0.17	— 0.52	S.	97 6 55.5	+ 3.9	+ 5.3
28	6 17 51.9	W.	I	22 49 50.11	— 0.11	— 0.75	S.	91 44 51.2	+ 4.2	+ 5.0
29	7 7 17.1	E.	I	23 43 19.95	— 0.27	— 0.79	S.	86 20 30.1	+ 3.6	+ 4.2
c. 1	8 46 55.4	R.	I	1 31 7.70	— 0.12	— 0.56	S.	76 34 42.4	— 0.2	+ 1.4
2	9 38 19.6	W.	I	2 26 36.96	— 0.12	— 0.59	.	. . .	. .	. .
5	12 17 8.2	R.	I, II	5 17 40.85	— 0.32	— 0.67	S.	67 56 47.9	— 0.4	— 0.1
15	19 47 41.8	E.	II	13 28 54.49	— 0.88	— 0.90	S.	103 13 57.8	— 2.2	— 2.2
16	20 37 7.8	S.	II	14 22 25.17	— 1.07	— 1.01	.	. . .	. .	. .
24	3 21 49.4	S.	I	21 35 49.17	— 0.28	— 0.83	S.	99 0 36.5	+ 1.8	+ 4.9
27	5 54 37.9	E.	I	0 20 52.49	— 0.21	— 0.74	S.	88 44 44.0	+ 1.4	+ 1.8
28	6 44 24.6	S.	I	1 14 43.86	— 0.11	— 0.63	S.	77 57 9.4	+ 2.8	+ 3.6

MERCURY.

Date.		Observer.	Part observed.	Apparent Right Ascension of Center.	Corr'n to Am. Eph.	Sidereal Time of Transit of Semi-diameter.	Corr'n to Am. Eph.	Part observed.	Geocentric N. P. Distance of Center.	Corr'n to Am. Eph.	Vertical Semi-diameter.	Corr'n to Am. Eph.
1881.				h. m. s.	s.	s.	s.		° ′ ″	″	″	″
Feb.	4	R.	.	. . .	. .	. .	. .	C.	105 30 5.8	+ 3.5	. .	. .
	5	W.	I	21 51 17.84	+ 0.25	. .	. .	C.	104 49 31.0	+ 1.3	. .	. .
	12	R.	I	22 38 4.55	+ 0.05	. .	. .	C.	99 33 18.1	— 0.1	. .	. .
	14	E.	I	22 50 26.59	+ 0.04	. .	. .	C.	97 56 17.3	+ 0.2	. .	. .
	24	R.	I	23 36 7.70	— 0.05	. .	. .	C.	90 39 32.0	+ 3.0	. .	. .
	26	E.	I	23 40 14.73	+ 0.14	. .	. .	C.	89 41 21.5	+ 3.9	. .	. .
April	22	E.	II	0 43 54.25	+ 0.11	. .	. .	N.	88 10 6.1	+ 0.7	. .	. .
	27	S.	C.	1 13 35.91	+ 0.15	. .	. .	.	. . .	. .	. .	. .
May	27	R.	I	5 7 40.02	— 0.28	. .	. .	C.	65 22 13.4	+ 2.3	. .	. .
	31	R.	I	5 42 15.15	— 0.29	. .	. .	C.	64 35 19.9	+ 0.7	. .	. .
June	18	E.	I	7 38 13.27	— 0.37	. .	. .	C.	67 32 8.3	+ 0.4	. .	. .
	20	R.	I	7 46 18.58	— 0.39	. .	. .	C.	68 12 59.5	— 0.5	. .	. .
	21	W.	I	7 49 57.30	— 0.39	. .	. .	.	68 33 53.9	+ 0.5	. .	. .
Aug.	2	R.	II	7 36 40.79	— 0.03	. .	. .	C.	70 37 18.7	+ 1.5	. .	. .
	7	W.	II	7 56 59.79	— 0.10	. .	. .	S.	70 8 45.3	+ 2.7	. .	. .
	10	R.	II	8 14 2.74	— 0.16	. .	. .	C.	70 15 59.8	+ 2.3	. .	. .
	22	R.	II	9 43 9.93	— 0.11	. .	. .	C.	74 33 2.8	+ 0.2	. .	. .
Sept.	24	R.	I	13 11 49.37	+ 0.24	. .	. .	C.	98 17 53.7	+ 3.6	. .	. .
Oct.	10	R.	I	14 33 11.83	+ 0.07	. .	. .	C.	117 38 16.5	+ 2.8	. .	. .
	14	R.	.	. . .	. .	. .	. .	C.	109 19 15.7	+ 3.2	. .	. .
	17	S.	C.	15 2 49.94	+ 0.20	. .	. .	C.	110 20 42.9	+ 3.1	. .	. .
	20	E.	I	15 13 0.36	— 0.23	. .	. .	C.	111 7 24.6	+ 4.4	. .	. .
	25	S.	I	15 24 4.85	+ 0.07	. .	. .	C.	111 43 7.1	+ 1.4	. .	. .
Nov.	13	S.	C.	14 29 9.13	+ 0.43	. .	. .	C.	102 46 42.1	+ 5.1	. .	. .
	16	E.	II	14 27 28.07	+ 0.24	. .	. .	S.	102 10 41.6	+ 2.7	. .	. .
	24	E.	.	. . .	. .	. .	. .	C.	103 44 36.2	+ 2.8	. .	. .
	27	W.	C.	15 1 30.05	+ 0.13	. .	. .	C.	104 58 28.3	— 0.8	. .	. .
Dec.	1	W.	C.	15 22 15.45	+ 0.16	. .	. .	C.	106 46 56.2	+ 0.4	. .	. .
	8	R.	II	16 3 3.42	+ 0.36	. .	. .	C.	109 52 26.6	+ 1.0	. .	. .
	15	S.	C.	16 47 18.74	+ 0.54	. .	. .	C.	112 24 40.2	+ 3.2	. .	. .
	16	R.	II	16 53 50.19	+ 0.27	. .	. .	C.	112 42 30.6	— 0.9	. .	. .
	23	S.	C.	17 40 43.26	+ 0.47	. .	. .	C.	114 16 13.8	+ 4.9	. .	. .

VENUS.

	Observer.	Part observed.	Apparent Right Ascension of Center.	Correction to— Am. Eph.	Correction to— Le Verrier's Tables.	Sid. Time of Transit of Semi-diam.	Corr'n to Am. Eph.	Part observed.	Geocentric N. P. Distance of Center.	Corrections to— Am. Eph.	Corrections to— Le Verrier's Tables.	Vertical Semi-diameter.	Corr'n to Am. Eph.
			h. m. s.	s.	s.	s.	s.		° ′ ″	″	″	″	″
6	S.	I	23 31 25.37	+ 0.01	+ 0.02	. .	. .	.	93 32 52.8	+ 1.6	+ 0.8	9.0	— 0.6
7	R.	I	23 35 27.32	— 0.11	— 0.10	. .	. .	C.	93 1 59.7	— 0.3	— 1.2	. .	. .
8	W.	I	23 39 28.24	— 0.16	— 0.15	. .	. .	.	92 31 7.6	+ 0.8	+ 1.0	9.5	— 0.3
5	W.	I	0 10 57.89	— 0.08	— 0.01	. .	. .	S.	88 23 33.4	+ 2.3	+ 1.9	. .	. .
6	E.	I	0 14 49.37	— 0.12	— 0.13	. .	. .	.	87 52 43.0	+ 0.3	0.0	10.2	— 0.8
2	R.	I	0 37 36.90	— 0.09	— 0.13	. .	. .	.	84 49 45.5	+ 0.2	— 0.2	12.7	+ 1.5
4	E.	I	0 45 4.43	— 0.06	— 0.10	. .	. .	S.	83 49 45.2	— 0.8	— 0.9	. .	. .
6	R.	I	0 52 27.65	— 0.08	— 0.12	. .	. .	S.	82 50 27.6	+ 2.3	+ 2.2	. .	. .
7	W.	.	. . . .	. .	. .	. .	. .	S.	82 21 1.2	+ 0.3	0.0	. .	. .
4	R.	I	1 21 14.90	— 0.28	— 0.27	. .	. .	S.	79 1 10.4	+ 1.7	+ 1.0	. .	. .
7	S.	I	1 58 22.79	— 0.15	— 0.14	. .	. .	S.	74 14 57.9	+ 1.4	+ 1.2	. .	. .
1	S.	I	2 10 53.72	— 0.14	— 0.18	. .	. .	S.	72 41 46.1	+ 2.8	+ 2.8	. .	. .
5	E.	I	2 22 41.60	— 0.17	— 0.20	. .	. .	S.	71 15 27.1	+ 2.0	+ 2.1	. .	. .
5	W.	.	2 47 57.14	— 0.15	— 0.10	. .	. .	.	68 14 45.8	+ 1.1	+ 0.9	. .	. .
8	R.	I	2 53 59.29	— 0.17	— 0.12	. .	. .	S.	67 31 49.3	+ 2.2	+ 2.2	. .	. .
1	E.	I	3 8 12.81	— 0.19	— 0.22	. .	. .	S.	65 40 59.8	+ 3.3	+ 4.0	. .	. .
3	E.	I	2 57 14.04	— 0.31	— 0.23	. .	. .	.	. . . .	. .	. .	. .	. .
0	W.	.	2 43 . .	. .	. .	. .	. .	S.	68 49 46.0	+ 1.7	+ 2.3	. .	. .
4	E.	II	2 10 52.84	— 0.01	+ 0.06	. .	. .	N.	77 10 0.8	+ 0.8	+ 1.0	. .	. .
6	R.	II	2 11 55.49	— 0.07	— 0.02	. .	. .	N.	77 27 33.1	+ 1.2	+ 2.4	. .	. .
7	W.	II	2 12 38.80	— 0.09	— 0.05	. .	. .	N.	77 34 41.4	+ 1.4	+ 2.8	. .	. .
0	R.	II	2 15 34.13	+ 0.02	+ 0.02	. .	. .	N.	77 49 48.6	+ 1.3	+ 2.5	. .	. .
5	R.	II	2 46 44.29	0.00	— 0.01	. .	. .	N.	77 2 40.0	+ 0.5	+ 1.6	. .	. .
7	E.	.	2 52 . .	. .	. .	. .	. .	N.	76 45 46.3	+ 1.0	+ 2.1	. .	. .
9	R.	II	2 57 44.46	+ 0.02	0.00	. .	. .	N.	76 27 16.6	+ 1.4	+ 2.5	. .	. .
5	R.	II	3 50 36.95	+ 0.09	— 0.02	. .	. .	N.	73 27 15.2	+ 2.1	+ 2.7	. .	. .
7	E.	II	3 59 3.11	+ 0.08	— 0.03	. .	. .	N.	73 3 30.2	+ 0.8	+ 1.2	. .	. .
3	R.	II	4 21 17.97	— 0.01	— 0.08	. .	. .	N.	71 54 32.2	0.0	+ 0.7	. .	. .
5	E.	II	4 29 20.68	— 0.02	— 0.11	. .	. .	N.	71 32 47.0	+ 0.9	+ 1.6	. .	. .
7	R.	II	4 37 31.74	— 0.02	— 0.13	. .	. .	N.	71 11 51.3	+ 1.2	+ 1.8	. .	. .
7	E.	II	5 20 19.37	+ 0.03	— 0.07	. .	. .	N.	69 43 56.3	+ 1.0	+ 1.2	. .	. .
2	R.	II	5 47 16.88	+ 0.04	— 0.08	. .	. .	N.	69 8 24.9	+ 0.5	+ 0.2	. .	. .
0	R.	II	6 24 23.86	+ 0.03	— 0.09	. .	. .	.	68 46 4.3	— 1.4	— 1.4	9.3	— 0.2
4	R.	II	6 43 21.13	+ 0.06	— 0.04	. .	. .	.	68 46 51.7	— 1.2	— 1.2	9.6	+ 0.8
9	R.	II	7 7 18.40	+ 0.06	— 0.07	. .	. .	.	68 58 49.9	+ 0.1	— 0.3	8.8	+ 0.3
2	R.	II	7 21 46.55	+ 0.05	— 0.09	. .	. .	.	69 14 8.6	— 0.4	— 0.6	9.6	+ 1.2
6	R.	II	7 41 7.87	+ 0.06	— 0.07	. .	. .	.	69 40 58.6	+ 0.4	+ 0.1	8.7	+ 0.6
0	R.	II	8 0 30.75	+ 0.09	— 0.05	. .	. .	.	70 16 38.1	+ 0.8	+ 0.3	7.3	— 0.6
3	R.	II	9 55 19.25	— 0.01	— 0.12	. .	. .	S.	76 43 42.0	+ 0.3	— 0.4	. .	. .
7	R.	II	11 45 45.18	+ 0.04	— 0.06	. .	. .	S.	86 51 36.9	+ 0.2	— 0.5	. .	. .
8	W.	II	11 50 17.78	+ 0.02	— 0.07	. .	. .	S.	87 19 40.9	— 0.4	— 1.0	. .	. .
9	S.	II	11 54 50.38	+ 0.04	— 0.05	. .	. .	S.	87 47 52.0	— 0.9	— 1.7	. .	. .
0	S.	II	11 59 22.87	— 0.02	— 0.10	. .	. .	.	88 16 9.0	— 2.1	— 2.9	6.1	0.0
1	R.	II	12 3 55.52	+ 0.07	— 0.01	. .	. .	S.	88 44 33.8	— 1.3	— 2.0	. .	. .
3	W.	II	13 3 14.78	+ 0.09	+ 0.02	. .	. .	N.	94 56 58.2	— 0.2	— 0.6	. .	. .
3	S.	.	13 49 46.26	+ 0.13	+ 0.06	0.40	+ 0.02	.	99 36 7.6	+ 1.0	+ 0.7	6.3	+ 0.6
4	R.	II	13 54 29.54	+ 0.12	+ 0.06	. .	. .	C.	100 3 7.5	+ 0.6	+ 0.2	. .	. .
5	W.	II	13 59 13.70	+ 0.09	+ 0.03	. .	. .	.	100 29 54.5	+ 0.4	0.0	6.3	+ 0.7
6	E.	II	14 3 58.82	+ 0.27	+ 0.07	. .	. .	S.	100 56 31.3	+ 3.9	+ 3.5	. .	. .
4	E.	II	14 42 35.29	+ 0.24	+ 0.17	. .	. .	C.	104 18 56.5	+ 0.1	0.0	. .	. .
7	W.	II	14 57 21.40	— 0.01	— 0.06	. .	. .	.	105 29 24.5	— 0.3	— 0.5	6.4	+ 0.9
1	W.	II	15 17 19.35	— 0.04	— 0.05	. .	. .	.	106 57 50.1	+ 1.0	+ 1.0	6.5	+ 1.1
8	R.	II	15 53 1.90	+ 0.14	+ 0.09	. .	. .	N.	109 14 51.5	— 2.7	— 1.3	. .	. .
6	R.	II	16 35 0.09	+ 0.01	0.00	. .	. .	C.	111 19 23.0	+ 0.2	+ 0.3	. .	. .
8	E.	II	16 45 40.08	— 0.12	— 0.15	. .	. .	C.	111 44 31.2	+ 2.0	+ 2.2	. .	. .
3	S.	.	17 12 35.85	+ 0.03	— 0.02	0.46	+ 0.08	.	112 35 56.5	+ 3.5	+ 3.6	5.2	0.0

MARS.

Date.	Observer.	Part observed.	Apparent Right Ascension of Center.	Corr'n to Am. Eph.	Sidereal Time of Transit of Semi-diameter.	Corr'n to Am. Eph.	Part observed.	Geocentric N. P. Distance of Center.	Corr'n to Am. Eph.	Vertical Semi-diameter.	Corr'n to Am. Eph.
1881.			h. m. s.	s.	s.	s.		° ′ ″	″	″	″
Feb. 4	W.	C.	19 12 22.44	− 0.05	. .	. .	C.	113 9 53.1	+ 1.0	. .	. .
Aug. 19	R.	II	4 36 13.84	− 0.30	. .	. .	C.	68 43 25.1	+ 3.0	. .	. .
Dec. 5	R.	. .	6 58 2.31	+ 0.72	0.61	+ 0.02	. .	64 26 15.0	+ 2.5	8.8	+ 3.4

JUPITER.

Date.	Observer.	Part observed.	Apparent Right Ascension of Center.	Corr'n to Am. Eph.	Sidereal Time of Transit of Semi-diameter.	Corr'n to Am. Eph.	Part observed.	Geocentric N. P. Distance of Center.	Corr'n to Am. Eph.	Vertical Semi-diameter.	Corr'n to Am. Eph.
Jan. 28	W.	. .	0 55 12.96	+ 0.16	1.22	− 0.05	. .	85 22 24.0	+ 2.8	16.7	− 1.1
Feb. 4	R.	. .	0 59 33.48	+ 0.22	1.14	− 0.11	. .	84 53 38.7	+ 3.9	14.6	− 2.9
5	W.	. .	1 0 12.46	+ 0.23	1.16	− 0.09	. .	84 49 22.3	+ 3.6	16.0	− 1.5
12	R.	. .	1 4 56.51	+ 0.17	1.02	− 0.21	. .	84 18 31.6	+ 4.0	15.2	− 2.0
16	R.	. .	1 7 47.22	+ 0.22	1.14	− 0.08	. .	84 0 11.7	+ 3.3	15.5	− 2.0
July 27	W.	. .	3 22 4.52	+ 0.55	1.28	− 0.07	. .	72 35 19.2	+ 3.0	17.8	− 0.3
Oct. 22	R.	. .	3 27 15.77	+ 0.65	1.70	− 0.02	. .	72 26 30.2	+ 3.2	22.9	− 0.2
26	R.	. .	3 25 20.79	+ 0.62	1.73	+ 0.01	. .	72 33 30.6	+ 3.2	23.6	+ 0.4
27	W.	. .	3 24 51.01	+ 0.63	1.73	0.00	. .	72 35 20.7	+ 4.3	22.8	− 0.5
Nov. 15	R.	. .	3 14 39.68	+ 0.58	1.72	− 0.02	. .	73 12 41.4	+ 1.8	23.6	+ 0.1
24	W.	. .	3 9 49.97	+ 0.60	1.66	− 0.07	. .	73 30 29.0	+ 3.5	24.2	+ 0.9
25	E.	. .	3 9 19.00	+ 0.61	1.78	+ 0.05	. .	73 32 22.7	+ 3.5	23.4	+ 0.1
27	R.	. .	3 8 18.07	+ 0.60	1.70	− 0.03	. .	73 26 6.0	+ 3.4	23.4	+ 0.2
Dec. 1	R.	. .	3 6 20.98	+ 0.63	1.67	− 0.04	. .	73 43 14.5	+ 3.7	22.7	− 0.4
2	W.	. .	3 5 52.74	+ 0.54	1.64	− 0.07	. .	73 44 58.2	+ 5.0	23.5	+ 0.5
5	R.	. .	3 4 31.27	+ 0.60	1.72	+ 0.02	. .	73 49 51.2	+ 2.9	23.4	+ 0.5
7	E.	. .	3 3 39.49	+ 0.54	1.70	+ 0.01	. .	73 52 57.2	+ 2.8	23.6	+ 0.7
9	R.	. .	3 2 50.19	+ 0.68	1.50	− 0.18	. .	73 55 54.8	+ 3.9	21.1	− 1.7
10	W.	. .	3 2 26.25	+ 0.56	1.60	− 0.08	. .	73 57 17.2	+ 1.8	23.4	+ 0.6
15	E.	. .	3 0 36.71	+ 0.63	1.68	+ 0.01	. .	74 3 41.1	+ 3.5	22.8	+ 0.3
20	S.	. .	2 59 4.26	+ 0.60	1.62	− 0.03	. .	74 8 49.6	+ 3.1	22.8	+ 0.5
31	E.	. .	2 56 47.99	+ 0.59	1.64	+ 0.05	. .	74 15 19.5	+ 2.4	22.0	+ 0.4

SATURN.

Date.	Observer.	Part observed.	Apparent Right Ascension of Center.	Corr'n to Am. Eph.	Sidereal Time of Transit of Semi-diameter.	Corr'n to Am. Eph.	Part observed.	Geocentric N. P. Distance of Center.	Corr'n to Am. Eph.	Vertical Semi-diameter.	Corr'n to Am. Eph.
Feb. 4	R.	. .	1 31 20.97	− 0.43	0.55	− 0.04	. .	83 0 31.2	+ 22.4	6.6	− 1.5
5	W.	. .	1 31 37.04	− 0.47	0.50	− 0.08	. .	82 58 42.1	+ 23.5	5.2	− 2.9
July 27	W.	. .	2 40 27.85	− 0.39	0.58	− 0.04	. .	76 54 54.4	+ 22.3	7.4	− 1.0
Oct. 22	R.	. .	2 32 33.02	− 0.30	0.72	+ 0.03	. .	77 49 20.0	+ 22.5	9.1	− 0.4
26	R.	. .	2 31 19.19	− 0.32	0.75	+ 0.06	. .	77 55 20.1	+ 22.3	10.0	+ 0.5
27	W.	. .	2 31 0.56	− 0.34	0.68	− 0.01	. .	77 56 52.3	+ 24.3	9.4	− 0.1
Nov. 5	E.	. .	2 28 12.32	− 0.34	0.72	+ 0.03	. .	78 10 13.8	+ 22.6	9.6	+ 0.1
15	R.	. .	2 25 10.24	− 0.33	0.70	+ 0.01	. .	78 24 16.3	+ 22.1	9.8	+ 0.3
16	W.	. .	2 24 52.72	− 0.28	0.64	− 0.05	. .	78 25 35.8	+ 22.0	9.4	− 0.1
24	W.	. .	2 22 38.67	− 0.34	0.62	− 0.06	. .	78 35 29.9	+ 21.5	10.2	+ 0.8
25	E.	. .	2 22 22.99	− 0.24	0.73	+ 0.05	. .	78 36 39.8	+ 23.0	9.2	− 0.2
27	R.	. .	2 21 52.25	− 0.15	0.68	0.00	. .	78 38 53.0	+ 23.8	9.4	0.0
Dec. 1	R.	. .	2 20 53.74	− 0.20	0.68	0.00	. .	78 42 57.7	+ 22.7	9.4	+ 0.1
2	W.	. .	2 20 39.74	− 0.30	0.64	− 0.04	. .	. . .	. .	. .	. .
5	R.	. .	2 19 59.96	− 0.16	0.68	+ 0.01	. .	78 46 35.7	+ 21.8	9.3	0.0
7	E.	. .	2 19 34.83	− 0.24	0.70	+ 0.03	. .	78 48 13.6	+ 21.1	9.3	0.0
10	W.	. .	2 18 59.81	− 0.18	0.64	− 0.03	. .	78 50 26.1	+ 19.7	9.4	+ 0.2
15	E.	. .	2 19 8.41	− 0.11	0.68	+ 0.02	. .	78 53 31.5	+ 21.5	8.8	− 0.4
17	R.	. .	2 17 50.32	− 0.20	0.64	− 0.02	. .	78 54 30.4	+ 21.3	9.3	+ 0.1
20	S.	. .	2 17 26.39	− 0.02	0.70	+ 0.04	. .	78 55 41.3	+ 19.5	8.6	− 0.5
28	S.	. .	2 16 39.74	− 0.05	0.66	+ 0.01	. .	78 57 20.4	+ 19.1	8.2	− 0.6
31	E.	. .	2 16 28.97	− 0.19	0.78	+ 0.13	. .	78 57 19.4	+ 20.5	8.4	− 0.5

URANUS.

Date.	Observer.	Part observed.	Apparent Right Ascension of Center.	Corr'n to Am. Eph.	Sidereal Time of Transit of Semi-diameter.	Corr'n to Am. Eph.	Part observed.	Geocentric N. P. Distance of Center.	Corr'n to Am. Eph.	Vertical Semi-diameter.	Corr'n to Am. Eph.
1881.			h. m. s.	s.	s.	s.		° ′ ″	″	″	″
Feb. 16	R.	.	10 55 58.93	+ 0.14	0.14	+ 0.01	C.	82 17 47.5	+ 1.1	. .	. .
Apr. 23	E.	.	10 46 51.80	+ 0.08	0.14	+ 0.01	C.	81 23 9.9	+ 1.6	. .	. .
28	S.	C.	10 46 31.54	+ 0.14	. .	. .	C.	81 21 18.1	+ 0.7	. .	. .
May 7	R.	C.	10 46 6.84	+ 0.18	. .	. .	C.	81 19 11.2	+ 1.2	. .	. .
9	E.	.	10 46 3.40	+ 0.11	0.15	+ 0.02	C.	81 18 56.5	+ 0.5	. .	. .
10	S.	C.	10 46 2.10	+ 0.20	. .	. .	C.	81 18 51.1	+ 0.9	. .	. .

NEPTUNE.

Date.	Observer.	Part observed.	Apparent Right Ascension of Center.	Corr'n to Am. Eph.	Sidereal Time of Transit of Semi-diameter.	Corr'n to Am. Eph.	Part observed.	Geocentric N. P. Distance of Center.	Corr'n to Am. Eph.	Vertical Semi-diameter.	Corr'n to Am. Eph.
Oct. 22	R.	.	2 54 40.61	+ 0.23	0.16	. .	C.	75 14 18.6	− 0.4	. .	. .
26	R.	C.	2 54 14.86	+ 0.17	. .	. .	C.	75 16 14.7	+ 0.1	. .	. .
27	W.	C.	2 54 8.31	+ 0.13	. .	. .	C.	75 16 45.0	+ 1.2	. .	. .
Nov. 15	R.	C.	2 52 2.51	+ 0.25	. .	. .	C.	75 25 55.6	− 1.4	. .	. .
16	W.	C.	2 51 56.04	+ 0.34	. .	. .	C.	75 26 23.5	− 1.7	. .	. .
24	W.	C.	2 51 4.53	+ 0.23	. .	. .	C.	75 30 4.1	0.0	. .	. .
25	E.	C.	2 50 58.31	+ 0.25	. .	. .	C.	75 30 31.0	+ 0.6	. .	. .
Dec. 1	R.	C.	2 50 21.95	+ 0.21	. .	. .	C.	75 33 0.6	− 0.5	. .	. .
2	W.	C.	2 50 16.03	+ 0.14	. .	. .	C.	75 33 27.4	+ 1.1	. .	. .
5	R.	C.	2 49 59.00	+ 0.24	. .	. .	C.	75 34 35.8	− 1.0	. .	. .
7	E.	C.	2 49 47.85	+ 0.17	. .	. .	C.	75 35 21.2	− 0.6	. .	. .
9	R.	C.	2 49 37.08	+ 0.16	. .	. .	C.	75 36 4.7	− 0.6	. .	. .
15	E.	C.	2 49 6.80	+ 0.15	. .	. .	C.	75 38 6.6	+ 1.1	. .	. .
17	R.	C.	2 48 57.48	+ 0.19	. .	. .	C.	75 38 41.3	− 0.6	. .	. .
31	E.	C.	2 48 3.78	+ 0.26	. .	. .	C.	75 42 0.1	+ 0.5	. .	. .

Date.	Observer.	Washington Mean Time.	Berlin Mean Time corrected for Aberration.	Apparent Right Ascension of Center.	Corr'n to Ephem.	Geocentric N. P. Distance of Center.	Corr'n to Ephem.	Notes.
METIS, ⑨.								
1881.		h. m.	h. m.	h. m. s.	s.	° ′ ″	″	
April 22	W.	11 27.0	17 15.1	13 32 32.18	— 1.21	93 7 14.2	— 7.9	
23	E.	11 22.2	17 10.9	13 31 36.20	— 1.04	93 4 4.6	— 7.5	
29	R.	10 53.2	16 41.7	13 26 14.15	— 0.90	92 47 35.6	— 6.7	
30	W.	10 48.5	16 36.9	13 25.4 . .	. .	92 45 16.9	— 7.1	
PARTHENOPE, ⑪.								
June 18	E.	12 12.7	18 4.0	18 2 58.04	+ 1.91	108 34 58.7	+ 1.9	
22	E.	11 53.0	17 44.3	17 59 1.20	+ 1.88	108 43 2.4	+ 2.5	
24	R.	11 43.1	17 34.4	17 57 2.59	+ 1.85	108 47 18.7	+ 2.2	
28	R.	11 23.5	17 14.8	17 53 8.68	+ 1.99	108 56 19.1	+ 2.6	
July 2	R.	11 4.1	16 55.4	17 49 23.24	+ 1.86	109 5 51.6	+ 2.6	
VICTORIA, ⑫.								
Mar. 10	E.	10 41.7	16 29.0	9 57 31.35	— 5.54	91 0 35.0	— 28.0	
EGERIA, ⑬.								
Mar. 29	W.	11 37.0	17 26.4	12 7 49.53	+ 2.38	70 13 54.1	+ 28.7	
IRENE, ⑭.								
Aug. 23	R.	12 22.8	18 8.4	22 33 15.58	+ 3.48	112 37 12.8	— 19.8	
27	R.	12 3.4	17 49.0	22 29 41.35	+ 3.37	113 0 24.0	— 19.7	
EUNOMIA, ⑮.								
June 12	R.	12 48.8	18 35.5	18 15 29.94	+13.32	121 0 40.0	— 30.9	
22	E.	11 58.8	17 45.8	18 4 53.40	+13.43	120 32 59.8	— 24.0	
July 2	R.	11 8.9	16 55.9	17 54 13.96	+13.19	119 55 0.6	— 26.6	
THETIS, ⑰.								
Nov. 25	E.	12 13.4	18 0.2	4 34 27.93	+13.58	75 25 41.9	— 36.6	
Dec. 5	R.	11 23.9	17 10.7	4 24 17.89	+13.29	75 37 28.2	— 39.2	
10	W.	10 59.4	16 46.1	4 19 24.17	+13.27	75 41 3.2	— 39.7	
MASSALIA, ⑳.								
June 12	R.	12 34.8	18 22.2	18 1 32.01	+ 2.32	112 30 8.1	— 3.0	
18	E.	12 5.0	17 52.4	17 55 20.07	+ 2.58	112 29 3.9	— 1.4	
22	E.	11 45.2	17 32.6	17 51 10.06	+ 2.52	112 28 1.5	— 1.0	
24	R.	11 35.2	17 22.6	17 49 6.11	+ 2.41	112 27 25.5	— 0.2	
28	R.	11 15.6	17 2.9	17 45 3.49	+ 2.46	112 26 2.8	0.0	
July 2	R.	10 55.9	16 43.1	17 41 10.89	+ 2.33	112 24 29.4	— 0.8	
LUTETIA, ㉑.								
Mar. 24	R.	12 6.8	17 54.2	12 18 0.46	— 4.26	86 47 32.4	— 23.7	

Date.	Observer.	Washington Mean Time.	Berlin Mean Time corrected for Aberration.	Apparent Right Ascension.	Corr'n to Ephem.	Geocentric N. P. Distance of Center.	Corr'n to Ephem.	Notes
THEMIS, (24).								
881.		h. m.	h. m.	h. m. s.	s.	° ′ ″	″	
ril 4	S.	11 9.4	16 56.0	12 3 48.32	— 0.15	89 44 47.5	— 3.2	
POMONA, (32).								
r. 2	E.	11 5.8	16 55.6	9 50 3.43	+ 0.11	85 48 24.9	+ 0.4	
10	E.	10 28.6	. . .	9 44 21.39	. .	84 58 19.6	. .	No Ephemeris.
HARMONIA, (40).								
t. 24	R.	12 12.4	18 4.5	0 29 8.01	+ 0.19	95 28 55.2	— 1.4	
t. 10	R.	10 55.0	16 46.9	0 14 27.58	+ 0.18	96 49 51.5	— 1.8	
11	W.	10 51.1	16 42.0	0 13 37.74	+ 0.21	96 53 26.5	+ 0.9	
ARIADNE, (43).								
c. 10	W.	10 35.0	16 23.9	3 54 51.79	+ 2.45	68 2 27.0	+ 1.1	
PANDORA, (55).								
t. 10	R.	11 50.1	17 40.5	1 9 41.35	— 0.01	80 42 48.2	— 0.6	
20	E.	11 1.5	16 51.8	1 0 30.78	+ 0.18	81 0 21.6	+ 0.6	
21	S.	10 56.7	16 47.0	0 59 38.32	+ 0.04	81 2 6.9	+ 2.0	
22	R.	10 52.0	16 42.3	0 58.8 . .	. .	81 3 49.6	+ 2.3	
25	S.	10 37.7	16 27.9	0 56 17.69	0.00	81 8 40.8	+ 0.2	
26	R.	10 33.0	16 23.2	0 55 30.01	— 0.03	81 10 15.0	+ 2.3	
MELETE, (56).								
r. 24	R.	10 35.4	16 21.5	10 45.7 . .	. .	87 32 13.3	— 3.0	
ELPIS, (59).								
ril 29	R.	12 12.1	17 57.3	14 45 15.71	+ 0.44	95 32 6.8	+ 2.9	
DANAE, (61).								
t. 11	W.	11 34.4	17 22.6	0 57 59.01	— 5.46	59 30 55.7	+ 39.2	
20	E.	10 49.6	16 37.7	0 48 36.26	— 5.27	59 43 48.0	+ 40.8	Record changed 1 rev. = 15″.3.
21	S.	10 44.6	16 32.7	0 47 36.87	— 5.41	59 46 22.1	+ 41.2	
22	R.	10 39.7	16 27.8	0 46 38.40	— 5.56	59 49 7.3	+ 40.5	
25	S.	10 25.2	16 13.2	0 43 49.97	— 5.37	59 58 29.6	+ 37.8	
26	R.	10 20.4	16 8.4	0 42 55.90	— 5.57	60 2 1.8	+ 41.1	
CLYTIA, (73).								
g. 27	R.	12 27.3	18 15.5	22 53 39.00	— 0.50	99 4 51.9	— 2.8	
FREIA, (76).								
t. 22	R.	12 42.6	18 27.6	2 49 48.70	— 5.04	74 6 32.3	+ 26.3	
26	R.	12 24.2	18 19.3	2 46 58.35	— 4.98	74 22 0.4	+ 26.3	
v. 15	R.	10 50.5	16 35.7	2 32 2.73	— 4.97	75 44 38.2	+ 31.3	

Date.	Observer.	Washington Mean Time.	Berlin Mean Time corrected for Aberration.	Apparent Right Ascension.	Corr'n to Ephem.	Geocentric N. P. Distance of Center.	Corr'n to Ephem.	Notes.
SYLVIA, (87).								
1881.		h. m.	h. m.	h. m. s.	s.	° ′ ″	s.	
Oct. 26	R.	11 54.9	17 37.3	2 17 40.10	— 0.26	87 28 44.7	+ 3.5	
Nov. 15	R.	10 21.9	16 3.6	2 3.3 . .	. .	87 45 24.1	+ 6.0	
MIRIAM, (102).								
Oct. 10	R.	11 5.3	16 58.6	0 24 47.36	—10.56	83 48 59.1	+ 52.9	
11	W.	11 0.7	16 54.0	0 24 12.06	—10.32	83 57 31.2	+ 56.4	
20	E.	10 20.8	16 13.8	0 19 41.02	— 9.71	85 9 18.5	+ 51.8	
21	S.	10 16.5	16 9.5	0 19 17.30	— 9.69	85 16 36.6	+ 51.6	
22	R.	10 12.1	16 5.0	0 18 55.09	— 9.66	85 23 46.9	+ 53.8	
ELECTRA, (130).								
July 10	R.	12 22.8	18 8.0	19 39.8 . .	. .	92 7 59.9	+ 7.0	
14	R.	12 3.9	17 49.2	19 36 41.49	+ 1.44	92 35 1.2	+ 5.0	
18	R.	11 45.0	17 30.4	19 33 32.21	+ 1.28	93 4 50.9	+ 5.3	
SOPHROSYNE, (134).								
Aug. 23	R.	12 39.0	18 28.1	22 49 35.60	— 0.22	101 11 56.3	+ 7.1	
27	R.	12 19.2	18 8.3	22 45 32.10	— 0.79	101 16 29.9	+ 7.2	
BERTHA, (154).								
Nov. 25	E.	11 9.9	16 52.0	3 30 47.70	— 3.13	58 54 43.4	+ 32.7	
27	R.	11 0.0	16 42.1	3 28 45.55	— 3.47	58 53 35.7	+ 39.6	
Dec. 7	E.	10 11.1	15 52.9	3 19 14.14	— 3.20	58 52 38.0	+ 31.4	
BAUCIS, (172).								
Mar. 24	R.	11 59.2	17 47.8	12 10 22.76	— 8.75	101 10 46.0	— 60.6	The N. P. D. should probably be 1 re (15″.3) less.
PHTHIA, (180).								
June 28	R.	10 42.2	16 31.7	17 11 44.22	—43.09	105 21 13.3	— 11.3	Compared with Ephemeris in B. Circ. No. 159.
July 2	R.	10 23.4	16 12.7	17 8 33.48	—42.61	105 18 39.3	— 3.7	
PHILOMELA, (196).								
Sept. 24	R.	11 21.1	17 5.4	23 37 43.57	+15 .	103 50 52.4	— 3.1′	B. J. Circ. No. 166.
Dec. 1	R.	6 41.4	12 19.7	23 25 18.72	+ 4 .	101 49 10.2	— 0.8	B. J. Circ. No. 170.
LILAEA, (212).								
July 14	R.	10 36.1	16 26.4	18 8 35.73	— 8 .	109 9 28.7	+ 0.3′	B. J. Circ. No. 161.
CLEOPATRA, (216).								
July 10	R.	9 22.7	15 5.6	16 39 10.99	+ 1 .	99 5 53.9	0.0′	B. J. Circ. No. 161.
14	R.	9 5.0	14 47.6	16 37 20.86	+ 1 .	99 5 26.3	— 0.1	B. J. Circ. No. 161.

RESULTS

OF

METEOROLOGICAL OBSERVATIONS

MADE AT THE

UNITED STATES NAVAL OBSERVATORY

DURING

THE YEAR 1881.

308——81—1 M

RESULTS OF METEOROLOGICAL OBSERVATIONS MADE AT THE U. S. NAVAL OBSERVATORY DURING THE YEAR 1881.

ERRATA.

On page 19 (TABLE II, col. 22) substitute—

124
107
149
113
57
60
107
65
42
79
101
95
1099
. . .
22

On page 7 (Jan.) substitute—

Barometer: Highest	30in.548 on Jan. 18.
Lowest	29in.383 on Jan. 21.
Extreme range	1in. 165
Greatest force of wind	5.0

On page 9 (Mar.) substitute—

Barometer: Highest	30in.225 on Mar. 15.
Lowest	29in.145 on Mar. 30.
Extreme range	1.080
Greatest force of wind	5.0

On page 10 (Apr.) substitute—

Temperature of the air: Highest . . .	84°.5 on Apr. 24.
Lowest . . .	23°.5 on Apr. 5.
Extreme range	61°.0
Rain fell on 7 days, amounting to 1.961 inches.	

On page 10 (Apr.) substitute—

Barometer: Highest	30in.148 on Apr. 30.
Lowest	29in.491 on Apr. 1.
Extreme range	0in.657
Greatest force of wind	5.0

On page 11 (May) substitute—

Temperature of the air: Highest. . . .	94° on May 13.
Lowest	42°.6 on May. 1.
Extreme range	51°.4
Rain fell on 8 days, amounting to 1.760 inches.	

On page 14 (Aug.) substitute—

Barometer: Highest	30in.167 on Aug. 26.
Lowest	29in.664 on Aug. 10.
Extreme range	0in. 503
Greatest force of wind	3

On page 15 (Sept.) substitute—

Temperature of the air: Highest . . .	107° on Sept. 7.
Lowest . . .	60°.0 on Sept. 13 and 14.
Extreme range	47°.0
Rain fell on 5 days, amounting to 1.760 inches.	

On page 18 (Dec.) substitute—

Barometer: Highest	30in.379 on Dec. 19.
Lowest	29in.514 on Dec. 30.
Extreme range	0in.865
Greatest force of wind	4.0

On page 19 (TABLE II, cols. 5, 6, and 7) substitute—

Highest daily means.	Lowest daily means.	Extreme mean range for the month.
°	°	°
34.5	3.1	31.4
49.9	8.5	41.4
49.7	28.5	21.2
72.5	29.5	43.0
80.6	54.3	26.3
79.9	58.2	21.7
83.1	68.8	14.3
83.7	67.5	16.2
84.4	67.6	16.8
79.7	48.4	31.3
64.5	27.6	36.9
58.0	28.4	29.6
Highest.	**Lowest.**	**Annual range.**
°	°	°
84.4	3.1	81.3
5	6	7

On page 19 (TABLE II) January, Extreme mean range for the month, should read 1in.165.

On page 20 (TABLE III) February, Range, should read 1in.387.

On page 20 (TABLE III) Mean monthly range, should read .910.

INTRODUCTION.

The meteorological department, during 1881, was under the charge of Professor J. R. EASTMAN, U. S. N., who made a daily examination of all the records and a monthly inspection of all the instruments in use. The observations were made at 0^h, 3^h, 6^h, 9^h a. m., noon, and 3^h, 6^h, 9^h p. m., Washington civil time, by the Observatory watchmen, Messrs. T. HAYS, D. HORRIGAN, and N. CAHILL, who have acquired such a degree of skill as insures a reasonable accuracy in their work.

METEOROLOGICAL INSTRUMENTS.

Standard Barometer.—The barometer was made by JAMES GREEN, of New York, and is used only as a standard by which the NEWMAN barometer is occasionally tested Drawings and description of this instrument will be found in the volume of Washington Observations for 1862.

Newman Barometer.—This barometer, in daily use, was made by NEWMAN, and is mounted against the northern wall of the northwest room on the first floor of the Observatory. The barometer is mounted with the usual adjustments at the top and bottom, and is attached by heavy brackets to a substantial mahogany board, which is firmly secured to the wall. The cistern is 103 feet above the mean half-tide of the Potomac River. The cistern and tube are of glass; the internal diameter of the former being 3.0 inches, and of the latter 0.532 inch.

The scale is attached to a brass rod having the usual adjustment to the surface of the mercury in the cistern. It is silvered and divided to 0.05 inch, and by means of a vernier may be read to 0.002 inch. The temperature of the mercury in the cistern is determined by a small ivory-scale thermometer, the bulb of which is constantly immersed in the mercury. The observations with this instrument in 1881, as printed in this volume, have received the constant correction of + 0.005 inch, determined in 1864, and have also been reduced to 32°.0 Fahrenheit.

Dry-bulb Thermometer.—This is a mercurial thermometer by GREEN, with a bulb 1.5 inches long and 0.2 inch in diameter. The scale is of glass, 12.0 inches long, 0.8 inch wide, and 0.1 inch thick. It is divided to half-degrees from — 30°.0 to + 125°.0. Fahrenheit. Several independent tests, in the spring of 1868, indicated that the *freezing-point* had changed its position on the scale since 1863.

In 1871, the dry-bulb, the maximum, and the minimum thermometers were compared with the KEW standard thermometer, No. 462, belonging to Professor EASTMAN. No appreciable errors were detected in the maximum and minimum thermometers.

A correction of $-0^{\circ}.9$ was deduced for the dry-bulb thermometer, and in 1876 this correction was found to be $-1^{\circ}.0$, and each observation published in this volume has been corrected by the latter quantity.

Wet-bulb Thermometer.—This instrument is similar to the preceding in materials, construction, and dimensions. Its scale extends from $-35^{\circ}.0$ to $+115^{\circ}.0$ Fahrenheit The bulb is covered with soft, fine linen, kept moist by the capillary action of a bundle of fine linen fibers that communicate with water in a bird-glass placed close beside it. The linen on the bulb is changed before its free action becomes impaired by dust.

Maximum Thermometer.—This is a mercurial thermometer, with a bulb 1.5 inches long and 0.2 inch in diameter. The scale is of glass, 12.0 inches long, 0.8 inch wide, and 0.1 inch thick, and is graduated to half-degrees from $-50^{\circ}.0$ to $+120^{\circ}.0$ Fahrenheit. At a point a short distance above the bulb, the internal diameter of the tube is so reduced that, while with the increase of temperature the mercury passes freely, with the least decrease of temperature the column of mercury is broken at the point of contraction, if the instrument is nearly horizontal, and the top of the column marks the highest temperature.

The top of the scale is attached by a metallic clamp to a pivot, around which the thermometer revolves freely in a vertical plane. This pivot is secured to a walnut board fixed to a post, about 3 feet above the ground; and the thermometer is placed nearly horizontal by resting the scale near the bulb on a wooden pin in the board.

After each observation, the instrument is adjusted by removing the pin and allowing the thermometer to swing freely from the pivot at the top of the scale, which motion is generally sufficient to reunite the column of mercury. In 1873, it was found that the readings from this thermometer required a correction of $+0^{\circ}.5$, which has been applied to the observations of 1881.

Minimum Thermometer.—This is a transparent spirit-thermometer, with a spherical bulb about 0.5 inch in diameter. The scale is of silvered brass, 12 inches long, 1.0 inch wide, and 0.06 inch thick, and is graduated to degrees from $-67^{\circ}.0$ to $+131^{\circ}.0$ Fahrenheit. The registering index is a short, fine steel wire, inclosed in a delicate blue-glass cylinder, with a small knob at the extremity farthest from the bulb of the thermometer.

This cylinder is drawn toward the bulb by the decrease of temperature; but when the temperature increases, the spirit flows through and around the cylinder, which remains at rest at the lowest point reached by the liquid. The end of the knob on the cylinder indicates the lowest point reached by the column of liquid. After each observation, the index is moved to the top of the column by means of a small magnet.

Solar Thermometer.—This thermometer (No. 13583) was made by L. CASELLA, of London, and consists of a blackened spherical bulb and its tube, inclosed within a bulb and cylinder of glass of the same form as the thermometer, but of about three times the diameter. The air has been exhausted from the inclosing bulb and cylinder, and the thermometer is confined in the center of the cylinder by having its upper end sealed to the end of the cylinder, while the lower end is fixed in a cork collar just above the junction of the bulb and cylinder. The scale is engraved on the thermometer-tube to degrees, and has a range from $-10^{\circ}.0$ to $+215^{\circ}.0$ Fahrenheit.

At about 20° from the top of the column of mercury, a small portion of air (covering about 0°.5 on the scale) is introduced into the column, so that whenever the temperature diminishes, the column of mercury above the air remains in position, indicating the highest temperature subsequent to the last observation. After each observation, the instrument is adjusted by holding it in a vertical position, tapping it gently, if necessary, until the upper portion forces the air down to the main column.

This thermometer rests in a horizontal position, in metallic crutches, 3 inches high, which are attached to an inch board 16 inches long and 5 inches wide. The board is painted green, and placed on the grass about three yards west of the Meteorological Observatory.

METEOROLOGICAL OBSERVATORY.

In 1862, a small building for the special protection of thermometers was erected about four yards southwest of the southwest corner of the south wing of the Observatory. It is constructed of wood, and painted white throughout.

Its form is octagonal, each side being 2.4 feet wide and 6.3 feet high to the eaves. The roof is of tin, unpainted on the under side. The ceiling is of thick boards, tightly fitted together, and between it and the roof there is an open space freely communicating with the open air.

On the north side is the door, which, as well as the sides, is of double louver-work, with a space of three inches between the two divisions. The sides terminate one foot from the ground, and, as the building is situated on a grass-plat, under ordinary circumstances the instrument should indicate the true temperature. This building was moved on April 9, 1874, to a point 18.8 yards west of the south wing of the main building and 17.3 yards south of the Transit Circle room.

The *dry*, *wet-bulb*, *maximum*, and *minimum* thermometers are in the Meteorological Observatory, and are all supported by means of arms and brackets to an upright metallic shaft, which is firmly secured to the ground in the center of the building.

The bulb of the minimum thermometer is 5.8 feet, those of the dry and the wet bulb thermometers are 4.2 feet, and that of the maximum thermometer is 3.2 feet above the ground.

A standard thermometer (Troughton & Simms, No. 1) is suspended between the dry and the wet bulb thermometers, and is frequently used as a check on the other instruments.

From frequent comparisons, it has been ascertained that the errors of the minimum and wet-bulb thermometers are not appreciable, and therefore the published observations with these instruments are from the unmodified copies of the original records.

The maximum and minimum thermometers were read at the end (midnight) of each day.

DIRECTION AND FORCE OF THE WIND.

An ordinary wind-vane revolves freely on a spindle at the top of the time-ball staff, and the direction of the wind is estimated from the known azimuths of the lines of the main building of the Observatory. The velocity of the wind is recorded in

numerals, of which 0 indicates a calm, 1 a very slight breeze, and so on up to 10, which would indicate a violent hurricane.

These recorded numbers are only estimates, and at best are but approximative.

CLOUDS.

In the description of the prevailing forms of clouds, the nomenclature of HOWARD is used: C., K., S., N., being the symbols for the forms designated *cirrus*, *cumulus*, *stratus*, *nimbus;* and the letters C. S., C. K., etc., indicate the combination *cirro-stratus*, *cirro-cumulus*, etc. The portion of the sky obscured is determined by estimation after a careful scrutiny of the clouds or sky. A clear sky is denoted by 0, and a total obscuration by 10.

RAIN-GAUGE.

This instrument is placed within the inclosure for the protection of the solar thermometer. It consists of a cylinder 0.8 inch long and 4.1 inches in diameter, soldered to an inverted cone, which is loaded with lead on the outside and near the apex.

The cone rests in an aperture in the horizontal top of an oblong box, and this, aided by the weight of the lead, prevents any disturbance, even during high winds. The top of the gauge is 2.0 feet above the ground, and is free from all shelter, even in driving rain-storms.

At the apex of the cone is a small aperture, through which the water passes to a receiving-bottle in a box.

The rain is measured in a glass cylinder, with an internal diameter of 0.60 inch, so graduated that the depth of rain can be determined to within 0.002 inch.

The gauge is examined every day, and as the apex of the cone closes the mouth of the bottle except through the small aperture, there is little or no loss by evaporation.

Each inch of snow is assumed to be equal to 0.111 inch of rain; but, whenever practicable, the snow has been melted, and measured in the graduated cylinder.

No important meteors were observed in 1881.

NOTE.—Professor J. R. EASTMAN, U. S. N., was relieved from the charge of the Meteorological department, at his own request, January 1, 1885, and Lieutenant J. C. WILSON, U. S. N., directed to assume charge in addition to his other duties.

The "Results of the Observations for 1881" have been computed and arranged, under his direction, by Ensign W. S. HOGG, U. S. N.

A change has been made in the form heretofore adopted of tabulating "Results," by which the daily, monthly, and yearly means and results have been brought together with a view of being more convenient for reference and comparisons.

TABLE I.

Month and Day.	Barom. Daily mean of corrected readings.	Temperature. Of the air. Highest.	Of the air. Lowest.	Of the air. Daily range.	Of the air. Mean of hourly readings.	Of evaporation. Mean of hourly readings.	In sun's rays as shown by thermometer with blackened bulb in vacuo placed on the grass. Highest.	In sun's rays. Lowest.	Amount of rain and melted snow collected in gauge two feet above the ground.	Clouds. Prevailing. A. M.	Prevailing. P. M.	Mean am't of cloudiness. 0 = clear. 10 = overcast.	Wind. General direction. A. M.	General direction. P. M.	Mean force. 0 = calm. 10 = violent hurricane.
1881.	in.	°	°	°	°	°	°	°	in.						
Jan. 1	30.305	19.2	−16.5	35.7	3.1	3.1	67.0	− 16.0	. . .	C.-S.	C. K.	4.5	NW.	N.	1.0
2	30.210	27.0	+14.5	12.5	19.4	19.4	65.5	+ 5.0	0.154	K.	Clear.	5.4	NNE.-NW.	NW.-W.	1.0
3	30.208	29.5	0.8	28.7	14.7	14.7	87.0	− 1.0	. . .	C. K.	C. K.	4.1	NW.	E.-S.-SW.	1.0
4	30.008	31.5	16.0	15.5	25.1	25.1	43.0	+ 15.0	0.280	C. K.	K. N.	9.9	SW.-N.	NE.	1.0
5	29.855	33.0	31.5	1.5	32.3	32.3	42.0	31.0	0.836	N. K.	N.	10.0	NNE.	NNE.-E.	1.0
6	29.685	35.5	32.5	3.0	33.4	33.4	51.0	31.0	0.096	N. K.	K.	10.0	NE.-NW.	NW.-SW.	1.1
7	30.092	38.8	29.2	9.6	31.7	31.7	64.5	29.0	. . .	Fog and haze.	C. K.	6.6	NW.	SE.-NW.	1.1
8	30.409	27.6	17.0	10.6	23.5	23.5	45.6	13.0	. . .	C. K.	C. K.	6.4	NE.-NW.	NE.	1.0
9	30.248	32.5	21.3	11.2	26.5	26.5	45.0	20.3	1.306	C. K.	N.	10.0	NE.	NNE.-N.	1.0
10	29.851	36.5	27.5	9.0	32.2	32.2	57.0	24.0	0.166	N.	C. K.	9.5	NW.	NW.	1.4
11	30.069	30.5	23.5	7.0	26.8	26.8	42.0	22.0	. . .	K.	K.	10.0	NW.	N.	1.1
12	30.112	33.0	19.0	14.0	24.3	24.3	100.0	11.0	1.300	C. K.	C.	2.8	NW.	NW.-S.-SE.	1.1
13	29.879	41.6	23.0	18.6	33.4	32.4	83.0	19.0	. . .	K. and C. K.	C. K.	9.1	S.	S.	1.1
14	29.723	40.0	18.0	22.0	32.5	31.9	48.0	14.0	0.382	N.	C. K.	7.7	SW.	NW.	2.1
15	30.080	20.5	8.5	12.0	14.7	14.7	44.0	4.0	. . .	C. K.	K.	6.6	NW.	Variable.	1.5
16	30.089	27.3	16.5	10.8	21.2	21.2	51.0	10.0	. . .	C. K.	C. K.	6.9	Variable.	Variable.	1.0
17	30.284	37.9	17.0	20.9	27.7	27.4	88.0	16.0	. . .	K.	C. S. K.	7.3	NW.	NW.	1.0
18	30.548	31.2	15.5	15.7	23.9	23.8	74.5	10.0	. . .	C. K.	C. K.	6.2	NW.	W. to SE.	1.0
19	30.214	31.6	26.5	5.1	28.4	28.4	45.0	25.0	0.430	N. K.	K.	9.0	SE.	NW.	1.0
20	29.988	31.6	22.0	9.6	27.4	27.4	40.0	20.0	0.160	K.	K. N.	10.0	N.-NNW.	NE.	1.0
21	29.383	36.5	32.0	4.5	34.4	34.4	51.0	31.0	1.089	N.	K. N.	10.0	NE.	Variable.	2.0
22	29.735	37.6	29.5	8.1	34.5	33.5	58.0	23.5	. . .	C. K.	C. K. S.	4.0	NW.	NW.	1.7
23	30.009	33.5	24.0	8.5	28.8	27.8	88.0	20.0	. . .	C. K.	C. K.	5.4	NW.	NW.	2.0
24	30.117	30.5	22.0	8.5	24.8	24.8	67.0	13.0	. . .	C. K.	C. K.	5.0	NW.	N.-NW.	1.1
25	30.153	28.5	22.0	6.5	24.9	24.9	44.0	20.0	. . .	K.	C. K.	9.7	NE.	NW.-N.	1.2
26	30.092	36.0	18.0	18.0	27.1	26.9	88.0	15.0	. . .	C. K.	C. K.	5.0	NW.	Variable.	1.0
27	30.184	27.6	14.5	13.1	19.7	18.5	85.0	10.0	. . .	Clear.	Clear.	0.0	NW.	NW.	1.9
28	30.413	28.2	16.5	11.7	22.1	22.1	85.0	11.0	. . .	C. K.	C. K.	4.3	NW.	NW.	2.3
29	30.283	30.9	18.0	12.9	23.8	23.7	68.0	9.0	. . .	Clear.	C. K.	6.7	NW.	N.-S.-E.	1.0
30	30.083	35.5	24.0	10.5	29.3	29.3	46.0	21.5	. . .	C. K.	C. K.	8.5	E.-SE.	E.-NW.	1.0
31	30.101	41.6	26.6	5.0	32.0	31.2	81.0	21.0	. . .	C. K.	K. N.	7.6	N.-NW.	NE.	1.0
Means.	30.083	32.4	19.7	12.3	25.9	25.7	62.4	16.0	Sum. 6.199	. . . . .	. . . . .	7.0	. . . . .	. . . . .	1.2
No. of columns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Temperature of the air: Highest . . . . . 41°.6 on Jan. 13.
Lowest . . . . . — 16°.5 on Jan. 1.

Extreme range . . . . . 58°.1

Rain fell on 11 days, amounting to 6.199 inches.

Barometer: Highest . . . . . 30in.548 on Jan. 18.
Lowest . . . . . 29in.383 on Jan. 21.

Extreme range 1in.765

Greatest force of wind . . . 5.0

WEATHER REMARKS.

Jan. 1. Clear from midnight till noon; overcast and cloudy remainder of day.
2. Snowing from 2.30 a. m. till 8; depth of snow 2½ inches.
3. Cloudy from noon till midnight.
4. Cloudy with snow during the middle of day.
5. Overcast and rainy.
6. Rain during a portion of the day.
7. Fog and haze until 8 a. m.
8. Overcast after 9 a. m.
9. Overcast with snow and sleet from 4 a. m. till 5 p. m.
10. Overcast with sleet until 6 a. m.
11. Cloudy with snow during night.
12. Day generally clear; rain first part of night.
13. Overcast and cloudy.
14. Rain commenced at 2 a. m.
15. Clear first part; cloudy latter part.
16. Light snow in afternoon.

WEATHER REMARKS.

Jan. 17. Cloudy.
18. Began to snow at 10.45 p. m.
19. Cloudy with sleet first part of day.
20. Overcast and damp, with light rain.
21. Overcast and rainy.
22. Generally clear and pleasant.
23. Hazy first portion of the day; pleasant remainder.
24. Clear first portion; clouding up latter part.
25. Overcast with light snow at 9 a. m.
26. Generally clear and pleasant.
27. Clear and pleasant.
28. Generally clear and pleasant.
29. Clear first part of day; cloudy remainder.
30. Overcast and damp until 8 p. m., when clear.
31. Clear first part; cloudy latter part.

TABLE I—Continued.

Month and Day.	Barom. Daily mean of corrected readings.	Temperature. Of the air. Highest.	Lowest.	Daily range.	Mean of hourly readings.	Of evaporation. Mean of hourly readings.	In sun's rays as shown by thermometer with blackened bulb in vacuo placed on the grass. Highest.	Lowest.	Amount of rain and melted snow collected in gauge two feet above the ground.	Clouds. Prevailing. A. M.	P. M.	Mean am't of cloudiness. 0 = clear. 10 = overcast.	Wind. General direction. A. M.	P. M.	Mean force. 0 = calm. 10 = violent hurricane.
1881.	in.	°	°	°	°	°	°	°	in.						
Feb. 1	29.971	30.0	13.0	17.0	20.7	21.4	29.5	11.0	. . .	Snow.	Snow.	10.0	ENE.	NNW.	1.6
2	30.188	15.0	— 0.5	15.5	8.5	9.1	100.0	— 12.0	0.559	Clear.	C. K.	2.4	NW.	NW.	1.1
3	30.162	21.0	— 1.0	21.0	10.6	10.0	100.0	— 3.8	. . .	C. K. S.	C. K. S.	4.4	NW.	NW.	1.4
4	30.175	26.0	7.0	19.0	16.2	16.2	101.0	2.0	. . .	Clear.	Clear.	0.1	NW.	NW.	1.9
5	30.382	26.5	8.0	18.5	16.5	16.6	99.0	2.0	. . .	Clear.	Clear.	0.0	NW.	NW.	1.6
6	30.611	34.9	9.0	25.9	20.5	20.2	102.0	4.5	. . .	Clear.	Clear.	0.2	NW.	NW.	1.0
7	30.671	37.0	4.0	33.0	20.7	20.6	98.0	— 1.0	. . .	C. S.	C. K.	4.3	NW.	E.	1.1
8	30.455	40.5	26.6	13.9	33.0	32.6	71.0	24.6	. . .	C. K.	C. K.	9.8	E.	NE.	1.0
9	30.178	48.0	35.5	12.5	41.1	40.5	63.0	34.5	. . .	K.	K.	10.0	E.	E.-SE.	1.0
10	29.870	58.0	37.5	20.5	47.8	48.2	68.0	36.0	0.686	N.	Fog.	9.2	E.-SE.	N.-SW.	1.0
11	29.994	57.0	31.0	26.0	42.3	40.8	99.0	26.5	. . .	Clear-Fog.	K.	5.2	NW.	E.	1.0
12	29.726	61.0	39.5	21.5	49.9	45.8	112.0	38.0	0.901	N.	C. K. S. N.	7.0	SE.	NW.-SW.	2.4
13	29.659	35.5	27.0	8.5	31.4	30.1	90.0	24.0	. . .	C. K. S.	C. K.	6.4	NW.	NW.	3.3
14	30.193	33.5	25.0	8.5	28.2	28.3	92.0	22.0	. . .	C. K.	C. K.	4.8	NW.	NW.	2.5
15	30.437	48.5	21.6	26.9	30.4	27.8	96.0	15.0	. . .	C. K.	C. K.	6.0	N.	E.	1.0
16	30.142	51.2	29.5	21.7	36.8	33.3	103.0	24.5	. . .	C.	Clear.	4.0	NNW.	NW.-W.	2.3
17	30.411	40.0	23.0	17.0	30.1	28.4	85.0	17.0	. . .	Clear.	C. K. S.	2.3	NW.	N.-NW..	1.6
18	30.188	45.5	29.0	16.5	37.3	35.7	77.0	28.0	. . .	C. K.	C. K. N.	9.8	S.-SE.	S.	1.9
19	29.886	46.2	34.6	11.6	40.8	39.8	71.0	28.0	. . .	N.	C. K.	7.6	N.-SW.	N.-NW.	1.4
20	30.239	41.5	26.0	15.5	33.8	31.9	102.0	20.0	. . .	C.	C. K.	5.1	NW.	E.	1.1
21	30.024	44.0	33.0	11.0	37.0	35.9	57.0	27.0	0.090	N.	C. K.	7.6	N.-NE.	NW.	1.5
22	30.092	46.2	28.0	18.2	36.3	33.6	101.0	22.0	. . .	Clear.	C. K.	3.6	NW.	SE.	1.0
23	29.855	43.5	26.0	17.5	36.7	33.3	104.0	22.0	. . .	C. K.	C. K.	6.3	SE.	NW.	2.0
24	30.211	28.2	13.5	14.7	21.1	21.2	92.0	9.0	. . .	Clear.	C. K.	3.1	NW.	E.-NW.	2.3
25	30.039	46.8	13.5	33.3	34.5	32.9	100.8	23.0	. . .	K.	C. K.	6.6	SE.	NW.	1.4
26	30.253	42.0	26.5	15.5	34.1	33.2	93.0	20.0	. . .	C. K.	K.	5.0	Variable.	ESE.	1.1
27	29.884	49.5	35.0	14.5	41.1	41.1	62.0	34.0	0.260	K.	C. K.	10.0	NE.	ENE.	1.0
28	29.424	55.0	38.0	17.0	47.8	47.6	58.6	36.0	0.094	N.-Fog.	N. C.	9.8	Variable.	NW.	1.6
Means.	30.119	41.2	22.8	18.4	31.5	30.6	86.7	19.1	Sum. 2.590	. . . . .	. . . . .	5.7	. . . . .	. . . . .	1.5
No. of columns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Temperature of the air: Highest . . . . . 61°.0 on Feb. 12.
Lowest . . . . . — 1°.0 on Feb. 3.

Extreme range . . . . . 62.°0

Rain fell on 6 days, amounting to 2.590 inches.

Barometer: Highest . . . . . 30in.671 on Feb. 7.
Lowest . . . . . 29in.424 on Feb. 28

Extreme range 1in. 247
Greatest force of wind . . . 5.0

WEATHER REMARKS.

Feb. 1. Overcast and snowing.
2. Generally clear and pleasant.
3. Variable weather.
4. Clear and pleasant.
5. Clear and pleasant,
6. Clear and pleasant.
7. Clear first part; cloudy latter part.
8. Overcast and cloudy.
9. Overcast and cloudy.
10. Overcast first part; fog latter part.
11. Overcast and foggy.
12. Overcast and rainy.
13. Generally cloudy.
14. Clear and pleasant.

WEATHER REMARKS.

Feb. 15. Cloudy.
16. Clear and pleasant.
17. Generally clear and pleasant.
18. Overcast and cloudy.
19. Cloudy weather.
20. Clear until 3 p. m.
21. Began to snow at 5.40 a. m.
22. Clear and pleasant until 3 p. m.
23. Generally cloudy.
24. Clear and pleasant.
25. Cloudy until noon; afterwards clear.
26. Clear and pleasant until 3 p. m.
27. Cloudy and foggy, with rain.
28. Overcast; foggy and rainy.

TABLE I—Continued.

Month and Day.	Barom. Daily mean of corrected readings.	Temperature. Of the air. Highest.	Lowest.	Daily range.	Mean of hourly readings.	Of evaporation. Mean of hourly readings.	In sun's rays as shown by thermometer with blackened bulb in vacuo placed on the grass. Highest.	Lowest.	Amount of rain and melted snow collected in gauge two feet above the ground.	Clouds. Prevailing. A. M.	P. M.	Mean am't of cloudiness. 0 = clear. 10 = overcast.	Wind. General direction. A. M.	P. M.	Mean force. 0 = calm.
1881.	in.	°	°	°	°	°	°	°	in.						
Apr. 1	29.491	42.8	33.0	39.8	36.9	35.3	87.5	31.5	. . .	C. K.	C. K. S'w & r'n.	8.5	NW.	NW.	2.
2	29.841	43.1	28.0	15.1	33.9	31.8	107.0	27.0	. . .	C. K. S.	C. K.	6.5	NW.	NW.	4.
3	29.901	44.5	30.5	14.0	36.1	33.2	102.0	29.0	. . .	C. K.	C. K. S.	8.4	NW.	NW.	2.
4	29.668	40.5	28.5	12.0	33.6	31.8	88.0	24.0	. . .	C. K.	C. K.	8.4	NE.	NW.	1.
5	29.676	37.5	23.5	14.0	29.5	28.5	98.0	19.5	. . .	C. K. S.	C. K.	4.0	NW.	NW.	3.
6	29.703	39.5	26.5	13.0	32.5	29.9	85.0	23.0	. . .	C. K.	C. K.	5.9	NW.	NW.	2.
7	29.931	56.2	28.0	24.2	40.4	36.8	114.0	24.0	. . .	Clear.	C. K.	2.0	NW.	NW.	2.
8	29.843	40.5	34.0	6.5	37.5	37.4	50.0	27.0	. . .	C. K. S. Hazy.	N.	7.0	Variable.	NE.	1.
9	29.795	45.5	39.0	6.5	41.5	41.5	55.0	36.3	0.887	N.	N.	10.0	NW.–NE.	NW.	1.
10	29.800	59.6	39.5	20.1	48.4	45.0	118.0	38.0	. . .	K.	C. K.	5.9	NW.	NW.	2.
11	29.831	65.5	38.5	17.0	51.9	47.3	123.0	29.0	. . .	C. K. S.	C. K.	6.5	NW.	NW.	1.
12	29.729	58.5	49.0	9.5	53.1	51.6	84.0	46.0	0.206	C. K. N.	C. K.	9.9	S.	SE.	1.
13	29.604	52.5	43.5	9.0	46.1	46.2	51.0	42.0	0.248	C. K. N. Foggy.	N. K.	10.0	E.–NE.	N.	1.
14	29.630	48.5	40.0	8.5	44.9	41.9	78.0	39.0	. . .	C. K. S.	C. K.	10.0	N.	N.–NNW.	2.
15	29.587	59.0	37.0	22.0	47.9	42.9	119.0	34.0	. . .	C. K.	C. K. S.	4.5	NW.	NW.	1.
16	29.674	60.0	43.0	17.0	50.5	45.0	119.0	41.0	. . .	C. K.	C. K.	4.9	NW.	NW.	1.
17	29.905	62.5	40.0	22.5	52.4	46.4	125.0	36.0	. . .	Clear.	C. K.	4.3	NW.	NW.	2.
18	29.863	58.5	45.5	13.0	51.4	48.8	95.5	43.0	0.194	C. K. N.	C. K. N.	8.6	E.	N. E.	1.
19	30.017	54.6	43.0	11.6	48.9	46.3	87.0	42.0	. . .	C. K. N.	C. K. S.	9.1	Variable.	S.–SE.	1.
20	30.001	48.0	44.0	4.0	45.4	44.6	56.0	42.0	0.158	K. N.	K.	10.0	E.	E.–NE.	1.
21	30.024	63.5	36.0	27.5	49.7	46.7	120.0	35.0	. . .	C. K. Foggy.	C. K.	4.2	NW.	S.–SE.	1.
22	30.016	61.0	46.5	14.5	52.8	51.6	104.0	45.0	0.178	K. N.	C. K.	8.3	S.	Variable.	.9
23	30.111	74.5	46.0	28.5	59.9	54.3	129.0	42.0	. . .	C. K.	C. K. S.	.9	Variable.	Variable.	1.
24	30.049	84.5	47.5	37.0	64.2	59.6	135.0	44.0	. . .	Clear.	C. K.	1.0	S.	S. SW.	1.
25	29.841	80.2	55.5	24.7	68.9	64.1	117.0	51.5	. . .	C. K. S.	C. K. S.	5.5	Variable.	Variable.	1.
26	29.696	84.8	62.5	23.3	72.5	69.2	123.5	61.5	0.090	C. K. Hazy.	C. K.	5.8	S.	Variable.	1.
27	29.786	67.0	59.2	7.8	64.1	60.6	90.0	49.0	. . .	C. K.	C. K. Hazy.	7.3	S.	NW.	1.
28	29.885	79.6	51.5	28.1	65.8	60.9	133.6	44.5	. . .	Clear. Foggy.	C. K. S.	1.4	NW.	Variable.	1.
29	29.907	71.3	57.5	13.8	64.8	60.7	114.0	47.0	. . .	C. K.	C. K.	7.0	Variable.	NW.	1.
30	30.148	72.0	47.2	24.8	58.5	53.9	128.0	38.0	. . .	C. K.	C. K. S.	2.3	NW.	NW.	1.
Means	29.831	58.5	41.6	16.9	49.4	46.5	101.1	37.7	Sum. 1.961	. . . . .	. . . . .	6.3	. . . . .	. . . . .	1.7
No. of columns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Temperature of the air: Highest . . . . . 84°.5 on Apr. 24.
Lowest . . . . . 37°.5 on Apr. 5.

Extreme range . . . . . 47°.0

Rain fell on 7 days, amounting to 1.961 inches.

Barometer: Highest . . . . . 30in.111 on Apr. 23.
Lowest . . . . . 29in.491 on Apr. 1.

Extreme range 0in.621
Greatest force of wind . . . 5.0

WEATHER REMARKS.

Apr. 1. Overcast and cloudy; snow and rain latter part.
2. Cloudy weather.
3. Cloudy weather.
4. Cloudy with light snow at times.
5. Generally clear.
6. Partially cloudy.
7. Clear and pleasant.
8. Began to rain at 10 a. m.
9. Overcast and rainy.
10. Cloudy first part, clearing latter part.
11. Cloudy.
12. Overcast and rainy.
13. Overcast and rainy.
14. Overcast and cloudy.
15. Clear and pleasant.

WEATHER REMARKS.

Apr. 16. Clear and pleasant.
17. Clear and pleasant.
18. Began to rain at 12.30 a. m.
19. Cloudy with light passing showers.
20. Overcast, with showers of rain.
21. Variable weather, foggy first part.
22. Overcast and rainy.
23. Clear and pleasant.
24. Clear and pleasant.
25. Generally clear.
26. Cloudy, with passing showers.
27. Cloudy.
28. Clear at times, foggy and hazy.
29. Cloudy.
30. Clear and pleasant.

TABLE I—Continued.

Month and Day.	Barom. Daily mean of corrected readings.	Temperature. Of the air. Highest.	Lowest.	Daily range.	Mean of hourly readings.	Of evaporation. Mean of hourly readings.	In sun's rays as shown by thermometer with blackened bulb in vacuo placed on the grass. Highest.	Lowest.	Amount of rain and melted snow collected in gauge two feet above the ground.	Clouds. Prevailing. A. M.	P. M.	Mean am't of cloudiness. 0 = clear. 10 = overcast.	Wind. General direction. A. M.	P. M.	Mean force. 0 = calm 10 = violent hurricane.
1881.	in.	°	°	°	°	°	°	°	in.						
ay 1	30.265	68.5	42.6	25.9	56.0	50.0	122.0	37.0	. .	Clear.	C. K.	2.0	NE.	SE.	1.3
2	30.029	73.6	55.5	18.1	64.1	61.2	95.0	54.5	0.132	C. K.	K. N.	10.0	Variable.	NW.	1.3
3	30.210	60.0	50.5	9.5	54.3	53.3	85.0	50.0	0.156	K. N.	C. K.	10.0	NE.	NE.	1.1
4	30.293	64.0	50.0	14.0	60.6	52.3	103.0	40.5	. .	C. K.	C. K. S.	8.1	NE.-SE.	Variable.	1.0
5	30.208	67.0	47.0	20.0	56.8	52.1	128.0	42.0	. .	C. K. S.	C. K.	8.1	Variable.	SE.	1.4
6	29.942	66.0	53.6	12.4	54.3	58.4	97.0	52.0	0.120	C. K. N.	C. K.	8.5	SE.	Variable.	1.0
7	29.992	72.0	52.5	19.5	59.4	58.1	124.0	46.2	. .	Clear.	C. K.	2.0	Variable.	SE.	1.3
8	30.035	75.5	51.5	24.0	63.4	59.5	137.0	42.0	. .	C. K.	Clear.	1.5	Variable.	S.	1.8
9	30.050	79.5	54.0	25.5	67.4	63.2	141.0	46.0	. .	Clear.	C. K.	2.1	SE.	S.	1.6
10	30.032	85.0	62.2	22.8	72.9	68.9	145.0	50.0	. .	C. K.	C. K.	1.9	S.	S.	2.0
11	30.039	91.0	63.5	27.5	76.0	71.1	148.0	57.5	. .	C. K.	C. K.	4.8	Variable.	NW.-SW.	1.1
12	29.967	91.5	66.4	25.1	79.3	73.5	144.0	65.4	. .	C. K.	C. K.	6.3	Variable.	NW.	1.5
13	29.897	94.0	71.5	23.5	80.6	74.1	150.0	64.6	. .	C. K.	C. K.	4.4	NW.	NW.	1.1
14	29.833	85.5	66.5	19.0	74.4	68.9	155.0	63.0	. .	C. K. S.	C. K.	7.5	NE.	SE.	1.6
15	29.602	83.0	64.0	19.0	73.4	68.3	143.0	74.0	0.100	C. K. N.	C. K.	4.1	NW.	Variable.	1.3
16	29.627	73.0	57.0	16.0	63.6	58.7	131.0	50.0	. .	C. K.	C. K.	3.5	NW.	NW.	1.6
17	29.741	56.5	53.5	3.0	55.0	53.9	60.0	50.0	0.204	C. K.	K. N.	9.3	NW.	Variable.	1.4
18	29.835	58.0	51.5	6.5	54.8	53.5	73.0	50.0	0.200	C. K.	C. K. N.	9.9	N.-NE.	N.	1.3
19	29.743	58.2	51.5	6.7	55.0	55.2	69.5	50.5	0.936	N.	C. K. N.	9.3	Variable.	W.	1.0
20	29.833	70.0	54.0	16.0	59.5	58.2	105.0	51.0	0.012	C. K. W.	C. K. N.	8.3	NW.	NNW.	1.1
21	29.928	73.2	51.5	21.7	66.4	60.1	131.0	48.0	. .	C.K. Fog, haze	C. K. S.	2.9	Variable.	Variable.	1.0
22	29.998	78.4	59.5	18.9	67.6	64.8	132.0	56.0	. .	C. K.	C. K.	4.1	SW.	NE.	1.0
23	30.080	74.5	58.6	15.9	67.0	63.4	126.0	55.5	. .	C. K.	C. K.	3.5	N.-NW.	Variable.	1.3
24	30.137	74.1	49.3	24.8	64.4	61.9	124.2	52.0	. .	C. K. Haze.	C. K.	2.1	Variable.	NE.	1.6
25	30.050	83.8	55.5	27.3	69.7	64.2	142.0	51.0	. .	Clear.	C. K.	1.0	NW.	E.	1.5
26	30.104	77.5	57.0	20.5	66.0	61.8	127.0	55.5	. .	C. K.	Hazy.	3.8	NE.	E.	1.4
27	29.954	84.2	56.5	27.7	69.0	65.6	132.0	50.0	. .	Hazy.	Clear.	0.0	E.	SE.	1.0
28	29.821	88.0	59.5	28.5	73.0	68.3	143.0	54.0	. .	Clear.	Clear.	0.3	S.	S.	1.3
29	29.810	89.5	64.0	25.5	75.7	70.5	145.0	54.0	. .	Clear.	Clear.	0.1	S.	SW.	1.6
30	29.792	90.0	66.0	24.0	77.0	72.2	150.5	58.0	. . .	C. K. Hazy.	C. K.	1.5	S.	W.	1.3
31	29.752	91.6	65.5	26.1	76.8	72.2	150.5	60.0	. . .	Clear.	C. K. N.	3.5	Variable.	SW.	1.5
Means.	29.955	76.7	53.6	23.1	66.2	62.5	124.5	52.6	Sum. 1.760	. . . . .	. . . . .	4.7	. . . . .	. . . . .	1.3
No. of columns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Temperature of the air: Highest . . . . . 94° on May 13.
Lowest . . . . . 47° on May 5.

Extreme range . . . . . 47°

Rain fell on 8 days, amounting to 1.760 inches.

Barometer: Highest . . . . . 30in.293 on May 4.
Lowest . . . . . 29in.602 on May 15.

Extreme range 0in.691
Greatest force of wind 3.0

WEATHER REMARKS.

ay 1. Clear and pleasant.
2. Overcast and rainy.
3. Overcast and rainy.
4. Cloudy weather.
5. Cloudy weather.
6. Cloudy and rainy.
7. Clear and pleasant.
8. Clear and pleasant.
9. Clear and pleasant.
10. Clear and warm.
11. Cloudy and very warm.
12. Cloudy and very warm.
13. Generally cloudy and very warm.
14. Cloudy and warm.
15. Generally clear with passing showers.
16. Clear and pleasant.

WEATHER REMARKS.

May 17. Overcast and rainy.
18. Overcast and rainy.
19. Overcast with heavy rain.
20. Rainy until 3 p. m., when clear.
21. Clear and pleasant.
22. Generally clear; thunder and lightning in morning.
23. Clear and pleasant.
24. Clear and pleasant.
25. Clear and warm.
26. Clear and hazy.
27. Clear with haze in morning.
28. Clear and very warm.
29. Clear and very warm.
30. Clear and very warm.
31. Clear first part; began to rain at 7.30 p. m.

TABLE I—Continued.

Month and Day.	Barom. Daily mean of corrected readings.	Temperature. Of the air. Highest.	Lowest.	Daily range.	Mean of hourly readings.	Of Evaporation. Mean of hourly readings.	In sun's rays as shown by thermometer with blackened bulb in vacuo placed on the grass. Highest.	Lowest.	Amount of rain and melted snow collected in gauge two feet above the ground.	Clouds. Prevailing. A. M.	P. M.	Mean am't of cloudiness. 0 = clear. 10 = overcast.	Wind. General direction. A. M.	P. M.	Mean force. 0 = calm. 10 = violent hurricane.
1881.	in.	°	°	°	°	°	°	°	in.						
June 1	29.656	85.0	67.2	17.8	73.7	71.3	151.0	63.0	.054	C. K.	C. K. N.	8.8	NW.	NW.	1.1
2	29.653	68.5	60.0	8.5	63.9	63.5	75.0	58.0	.410	C. K. Mist.	N.	8.9	NW.	NE.	1.4
3	29.583	64.0	59.0	5.0	60.3	59.8	71.0	57.0	.110	K. Mist.	K. N.	10.0	NE.	NE.	1.4
4	29.660	65.0	55.5	9.5	59.8	59.0	78.0	54.0	.314	K. N.	C. K.	9.6	NE.	NW.	1.1
5	29.790	72.5	54.0	18.5	63.6	61.1	111.0	50.0	. . .	C. K.	C. K.	7.1	NW.	Variable.	1.1
6	29.864	71.0	58.0	13.0	65.8	62.2	118.0	58.0	.028	K. N	C. K.	9.8	Variable.	NE.–E.	1.1
7	29.971	70.0	61.2	8.8	64.3	62.9	82.0	60.0	.468	K. N.	C. K.	9.5	SE.	E.	1.4
8	29.729	81.0	61.0	20.0	71.5	69.9	132.0	56.0	. . .	C. K.	C. K. Hazy.	7.6	Variable.	Variable.	1.1
9	29.705	69.0	59.5	9.5	65.0	64.9	70.0	59.0	.564	C. K. N.	N.	8.5	E.	NE.	1.1
10	29.864	60.5	55.5	5.0	58.2	57.6	77.0	55.0	.086	K. N.	C. K.	10.0	N.	NW.	1.6
11	29.954	80.2	57.5	22.7	67.7	63.6	137.0	55.5	. . .	C. K.	C. K.	8.9	NW.	NNW.	1.4
12	30.024	81.0	60.5	20.5	70.3	67.0	141.0	55.0	. . .	C. K. S.	C. K.	1.4	Variable.	E.–SE.	1.4
13	29.984	77.5	63.2	14.3	68.7	66.3	130.0	60.0	. . .	C. K.	C. K. S.	6.9	E.	SE.	1.4
14	29.823	86.6	65.0	21.6	73.5	69.3	143.5	62.5	. . .	K.	C. K.	6.6	S.	NW.	1.6
15	29.968	82.5	63.0	19.5	72.6	66.8	141.0	58.5	. . .	C. K.	C. K.	3.0	NW.	NW.	1.9
16	30.028	83.5	60.5	23.0	71.3	66.8	139.0	51.0	. . .	C. K.	C. K.	5.6	NW.	Variable.	1.0
17	29.718	87.0	65.8	21.2	73.8	71.5	137.0	62.0	.480	C. K. N.	C. K.	9.3	SE.	W.	1.1
18	29.784	88.0	65.5	22.5	76.6	70.7	145.0	57.0	. . .	C. K.	C. K.	4.2	NW.	NW.	1.5
19	29.727	89.0	66.8	22.2	75.1	72.1	146.0	61.5	.006	C. K.	C. K.	5.0	Variable.	NW.	1.1
20	29.723	88.0	68.0	20.0	76.7	73.4	146.0	62.5	.248	C. K.	C. K. N.	5.6	NW.	SW.	1.1
21	29.683	79.6	67.0	12.6	72.0	67.8	142.3	58.0	. . .	C. K.	C. K.	5.0	N.	N.–NW.	1.6
22	29.832	73.5	59.5	14.0	65.5	59.9	135.0	53.0	. . .	K.	C. K.	6.2	NE.	E.	1.5
23	29.905	76.0	54.0	22.0	66.2	62.4	146.0	48.5	. . .	C. K.	C. K. S.	5.0	Variable.	N.	1.0
24	30.044	77.0	55.0	22.0	65.4	60.3	135.0	51.5	. . .	C. K. Hazy.	C. K.	3.4	NNE.	N.–NNE.	1.2
25	30.014	77.5	58.0	19.5	68.5	65.9	121.0	53.0	.046	C. K. S.	C. K. N.	7.5	Variable.	E.–SE.	1.0
26	29.958	85.8	67.0	18.8	73.9	71.2	142.0	64.5	. . .	C. K.	C. K. S.	6.7	E.–NE.	Variable.	1.0
27	29.889	81.0	67.0	14.0	72.4	71.5	104.5	61.0	2.696	C. K.	C. K.	7.1	SE.	SE.	1.7
28	29.712	90.7	69.0	21.7	79.5	76.4	146.0	63.0	. . .	C. K.	C. K.	4.2	SE.	SW.	1.0
29	29.659	90.0	71.6	18.4	79.9	75.3	125.1	67.0	.054	Clear.	C. K. Hazy.	4.2	NW.	NW.	1.6
30	29.737	83.3	66.5	16.8	76.1	72.6	142.2	62.5	. . .	C. K. S.	C. K.	4.7	N.–NW.	Variable.	1.1
Means.	29 825	78.8	62.0	16.8	69.6	66.7	123.6	57.9	Sum. 5.564	. . . . .	. . . . .	6.7	. . . . .	. . . . .	1.3
No. of columns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Temperature of the air: Highest . . . . . 90°.7 on June 28.
Lowest . . . . . 54° on June 5 and 23.

Extreme range . . . . . 36°.7

Rain fell on 14 days, amounting to 5.564 inches.

Barometer: Highest . . . . . 30in.044 on June 24.
Lowest . . . . . 29in.583 on June 3.

Extreme range 0in.461
Greatest force of wind . . . 3.0

WEATHER REMARKS.

June 1. Cloudy with a rain shower at 5.50 p. m.
2. Overcast and rainy latter part.
3. Overcast with rain during middle of day.
4. Rain first part, overcast and cloudy latter part.
5. Cloudy.
6. Cloudy with light rain.
7. Overcast and rainy.
8. Cloudy, lightning during evening.
9. Passing showers and heavy rain.
10. Overcast with light rain.
11. Cloudy.
12. Clear and warm.
13. Cloudy and warm.
14. Cloudy first part, clearing latter part.
15. Clear and warm.

WEATHER REMARKS.

June 16. Generally clear and warm.
17. Rainy first part, overcast latter part.
18. Clear and very warm.
19. Generally clear and very warm.
20. Cloudy with showers of rain; warm.
21. Partially cloudy and warm.
22. Cloudy.
23. Generally cloudy.
24. Clear and pleasant.
25. Cloudy.
26. Cloudy and warm.
27. At 8 heavy shower of rain with thunder and lightning.
28. Clear and warm.
29. Clear and very warm.
30. Clear and warm.

TABLE I—Continued.

Month and Day.	Barom. Daily mean of corrected readings.	Temperature. Of the air. Highest.	Temperature. Of the air. Lowest.	Temperature. Of the air. Daily range.	Temperature. Of the air. Mean of hourly readings.	Temperature. Of evaporation. Mean of hourly readings.	Temperature. In sun's rays as shown by thermometer with blackened bulb in vacuo placed on the grass. Highest.	Temperature. In sun's rays as shown by thermometer with blackened bulb in vacuo placed on the grass. Lowest.	Amount of rain and melted snow collected in gauge two feet above the ground.	Clouds. Prevailing. A. M.	Clouds. Prevailing. P. M.	Clouds. Mean am't of cloudiness. 0=clear. 10=overcast.	Wind. General direction. A. M.	Wind. General direction. P. M.	Wind. Mean force. 0=calm. 10=violent hurricane.
1881.	in.	°	°	°	°	°	°	°	in.						
July 1	29.909	80.5	65.5	15.0	71.9	66.4	137.0	59.0	. . .	C. K.	C. K.	5.7	N.	N.	1.7
2	30.067	85.0	61.0	24.0	72.4	65.9	144.5	57.5	. . .	Clear.	C. K.	0.2	NW.	N.-NE.	1.1
3	30.032	89.0	61.5	22.5	75.0	69.5	147.0	56.0	. . .	C. K.	C. K.	1.6	Variable.	W.	1.1
4	29.875	91.0	67.5	23.5	78.6	73.6	148.0	62.0	. . .	C.	C. K.	2.0	NW.-NNW.	N.	1.2
5	29.837	94.2	70.5	23.7	81.3	75.8	150.0	64.0	. . .	C. K. Hazy.	Clear.	0.6	NW.	NW.	1.1
6	29.835	96.2	73.5	22.7	82.0	77.6	139.5	67.0	0.140	C. K.	C. K. Hazy.	3.0	NW.	NW.	1.5
7	29.910	89.5	71.6	17.9	78.6	75.6	146.0	69.0	0.404	Clear.	C. K. N. Hazy.	3.7	N.	NW.	1.1
8	29.872	88.3	69.5	18.8	78.4	75.2	149.0	67.0	0.058	C. K.	C. K.	6.2	NW.	NE.	1.5
9	30.002	85.2	69.5	15.7	75.8	72.7	154.0	67.0	. . .	C. K.	C. K.	7.0	NE.	SE.	1.2
10	30.039	89.3	71.5	17.8	79.1	75.5	141.5	66.0	. . .	C. K.	C. K.	4.5	E.	SE.	1.1
11	29.910	91.8	71.5	20.3	81.2	77.7	151.0	65.0	. . .	Clear-Hazy.	C. K.	4.1	Variable.	Variable.	1.0
12	29.887	91.6	75.5	16.1	82.1	78.7	146.0	70.0	. . .	C. K.	C. K. Hazy.	4.2	N.	SSE.	1.1
13	29.856	94.0	75.5	18.5	83.1	79.2	146.0	71.0	0.254	C. K.	C. K. N.	8.6	N.	NW.	1.2
14	29.921	91.6	74.0	17.6	81.1	75.9	151.5	70.0	. . .	C. K.	C. K. S.	5.0	NW.	Variable.	1.2
15	29.984	83.2	71.5	11.7	77.4	74.0	120.0	69.0	. . .	C. K.	C. K.	8.0	N.	NE.	1.2
16	29.898	93.0	69.0	24.0	79.5	75.4	138.0	64.0	0.084	C. K. Hazy.	C. K. N.	4.7	NW.	S.	1.0
17	29.687	84.8	70.3	14.5	76.6	72.3	125.0	61.5	0.206	C. K.	C. K.	5.0	NW.	NW.	2.2
18	29.669	83.5	63.0	20.5	72.2	65.2	139.0	53.5	. . .	Clear.	C. K.	1.7	N.	NW.	2.1
19	29.730	89.0	61.5	27.5	73.7	66.9	146.0	52.0	. . .	Clear. Hazy.	C. K.	0.9	NW.	NW.	1.7
20	29.784	87.6	65.5	22.1	75.5	70.8	137.0	58.0	. . .	C. K.	C. K.	8.0	NW.	Variable.	1.0
21	29.682	83.5	70.8	12.7	76.3	73.2	126.0	69.0	. . .	C. K.	C.	7.3	NW.	NW.	1.4
22	29.658	77.0	63.5	13.5	68.8	67.3	112.0	59.0	0.490	Clear.	K. N.	7.2	NW.	NE.	1.5
23	29.723	83.0	61.6	21.4	71.8	68.5	146.1	58.0	. . .	Clear. Hazy.	C. K.	1.8	Variable.	NW.	1.7
24	29.844	88.8	64.5	24.3	75.9	70.6	149.0	58.0	. . .	Clear.	C. K.	0.5	NW.	NW.	1.1
25	29.843	91.0	67.0	24.0	77.6	73.1	152.0	59.0	. . .	C. K. S.	C. K.	3.6	Variable.	S.	1.5
26	29.799	89.5	69.2	20.3	78.5	72.6	153.0	64.0	. . .	C. K.	C. K. S.	6.3	Variable.	N.	1.0
27	29.796	85.5	69.0	16.5	74.4	69.6	147.0	64.0	. . .	C. K.	C. K.	7.7	NW.	NW.	1.1
28	29.802	85.5	62.5	23.0	73.0	66.9	143.0	55.0	. . .	C. K.	C. K.	2.5	NW.	NW.	1.1
29	29.931	78.2	62.5	15.7	69.9	67.2	129.0	57.0	. . .	Clear. Hazy.	C. K. N.	3.8	NW.	Variable.	1.0
30	30.105	79.2	67.0	12.2	72.3	69.2	116.0	60.0	. . .	C. K. Hazy.	C. K.	5.7	NW.	NE.	1.7
31	30.096	88.5	67.0	21.0	75.0	70.9	150.0	65.5	. . .	K.	C. K.	6.4	N.	NW.	1.0
Means.	29.875	87.4	67.9	19.5	76.4	72.0	141.2	62.5	Sum. 1.636	. . . . .	. . . . .	4.4	. . . . .	. . . . .	1.3
No. of columns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Temperature of the air: Highest . . . . . 96°.2 on July 6.
Lowest . . . . . 61° on July 2.

Extreme range . . . . . 35°.2

Rain fell on 7 days, amounting to 1.636 inches.

Barometer: Highest . . . . . 30in.105 on July 30.
Lowest . . . . . 29in.658 on July 22.

Extreme range 0in.447
Greatest force of wind . . . 3.0

WEATHER REMARKS.

July 1. Cloudy first part, clearing latter part.
2. Clear and warm.
3. Clear and warm.
4. Clear and very warm.
5. Clear and very warm.
6. Warm, with thunder shower at 4.40 p. m.
7. Warm, with thunder shower at 5.30 p. m.
8. Warm, with passing showers during night.
9. Cloudy and sultry.
10. Generally clear and warm.
11. Clear and very warm.
12. Hazy and warm.
13. Cloudy, warm, and showery.
14. Clear and warm.
15. Cloudy and warm.
16. Clear and very warm first part, cloudy latter part.

WEATHER REMARKS.

July 17. Cloudy first part, clearing latter part.
18. Clear and warm.
19. Clear and warm.
20. Cloudy and sultry.
21. Cloudy first part, clearing latter part.
22. Overcast and rainy from 6 a. m.
23. Clear and warm.
24. Clear and warm.
25. Clear and very warm.
26. Generally cloudy and sultry.
27. Cloudy and warm.
28. Clear and warm.
29. Clear; light shower at noon.
30. Clear first part, cloudy latter part.
31. Cloudy and warm.

TABLE I—Continued.

Month and Day.	Barom. Daily mean of corrected readings.	Temperature. Of the air. Highest.	Lowest.	Daily range.	Mean of hourly readings.	Of evaporation. Mean of hourly readings.	In sun's rays as shown by thermometer with blackened bulb in vacuo placed on the grass. Highest.	Lowest.	Amount of rain and melted snow collected in gauge two feet above the ground.	Clouds. Prevailing. A. M.	P. M.	Mean am't of cloudiness. 0 = clear. 10 = overcast.	Wind. General direction. A. M.	P. M.	Mean force. 0 = calm 10 = violent hurricane.
1881.	in.	°	°	°	°	°	°	°	in.						
Aug. 1	29.915	90.5	69.5	21.0	77.7	73.6	147.0	62.0	. . .	Clear.	C. K. N.	5.1	S.	S.	1.7
2	30.018	88.5	67.0	21.5	76.3	72.9	144.0	67.0	.246	N. C. K.	C. K.	5.2	NW.	N.	1.0
3	30.017	94.7	68.0	26.1	79.7	74.0	154.0	65.0	. . .	Clear.	C. K. Haze.	6.2	NW.	NW.	1.0
4	29.998	96.0	67.5	28.5	80.0	74.1	146.0	64.0	. . .	Hazy.	C. K. Hazy.	1.0	NW.	Variable.	1.0
5	29.954	97.5	69.5	28.0	82.9	77.9	150.0	65.0	. . .	Clear.	Clear. Hazy.	1.2	NW.	E.-S.	1.0
6	29.897	99.0	73.0	26.0	83.7	77.2	157.0	67.0	.134	Clear. Hazy.	C. K.	2.6	S.-NW.	S.-SSW.	1.5
7	29.821	85.6	69.0	16.6	75.4	73.2	149.0	70.0	.566	C. N. K.	C. N. K.	9.3	W.	NW.	1.2
8	29.929	83.5	67.0	16.5	73.1	69.0	146.0	61.0	. . .	C. K. S.	C. K.	2.2	N.	NW.	1.3
9	29.871	90.7	62.5	28.2	76.8	72.9	144.0	57.0	. . .	C. K. S.	C. K.	5.2	NW.	S.-WSW.	1.0
10	29.664	95.0	73.0	22.0	82.9	76.2	153.0	68.0	. . .	C. K. Haze.	C. K. S.	4.2	Variable.	NW.	1.3
11	29.853	84.0	65.0	19.0	75.4	70.4	142.6	59.5	. . .	C. K. Haze.	C. K.	3.5	NW.	SE.-NW.	1.3
12	29.847	92.5	66.0	26.5	77.8	72.0	145.0	58.5	. . .	C. K. S.	C. K.	7.3	W.	SE.	1.1
13	29.677	98.4	73.0	25.4	82.9	77.2	155.0	67.5	. . .	C. K.	C. K.	4.1	Variable.	NW.	1.2
14	29.745	84.0	72.0	22.0	76.7	70.8	130.0	60.0	. . .	C. K. S.	C. K.	5.7	Variable.	NW.	1.5
15	29.926	82.5	61.0	21.5	71.3	64.3	140.0	56.0	. . .	Clear.	C. K.	3.3	NW.	N.	1.5
16	30.025	80.0	61.0	19.0	70.3	64.0	130.0	55.0	. . .	C. K.	C. K. S.	3.8	N.	E.-NE.	1.3
17	30.040	81.0	60.5	20.5	68.3	64.4	132.0	56.0	. . .	C. K.	C. K.	7.7	E.	NE.	1.1
18	29.946	75.5	61.0	14.5	67.5	63.4	106.0	58.0	. . .	C. K.	C. K.	7.1	NE.	S.	1.0
19	29.845	81.2	57.5	23.7	70.3	65.4	143.0	54.0	. . .	C. K. Haze.	C. K.	4.0	Variable.	NW.	1.0
20	29.721	90.6	64.0	26.6	77.1	70.3	143.0	60.0	. . .	C. K.	C. K.	2.3	NW.	Variable.	1.1
21	29.692	93.5	65.2	28.3	78.5	70.8	145.0	60.0	. . .	C. K.	C. K.	3.3	NW.	Variable.	1.3
22	29.831	88.0	67.0	21.0	76.8	70.8	145.0	65.0	.059	C. K. N.	C. K.	3.3	NW.	Variable.	1.3
23	30.015	89.7	62.0	17.7	75.0	66.7	145.5	59.0	. . .	C. S.	C. K.	0.5	N.	N.	1.0
24	30.133	90.5	60.5	30.0	74.8	68.2	149.0	55.0	. . .	Clear.	C. K.	1.8	NW.	Variable.	1.1
25	30.162	88.0	65.0	23.0	75.6	68.9	143.0	59.0	. . .	C. K.	C. K. S.	4.5	SE.	SE.	1.2
26	30.167	87.6	63.0	24.6	74.1	67.8	145.0	56.0	. . .	Clear.	C. K.	0.4	Variable.	SE.	1.0
27	30.114	88.0	60.5	27.5	73.2	66.0	141.0	57.0	. . .	Clear. Foggy.	Clear.	0.5	Variable.	E.-SE.	1.1
28	30.066	90.6	63.5	26.1	76.2	69.8	146.0	59.5	. . .	C. K.	C. K.	3.5	NE.	SE.	1.0
29	30.106	94.2	71.5	22.7	79.5	73.0	145.0	67.0	. . .	C. K. Hazy.	C. K.	1.4	Variable.	S.	1.0
30	30.153	98.2	67.5	30.7	79.9	73.2	144.6	62.0	. . .	Clear. Hazy.	C. K. Hazy.	1.3	S.	SE.	1.1
31	30.074	92.5	68.0	24.5	80.1	73.4	151.0	65.0	. . .	Clear.	C. K. Hazy.	3.1	Variable.	Variable.	1.2
Means.	30.096	89.4	65.8	23.6	76.4	70.7	143.8	61.1	Sum. 1.005	. . . . .	. . . . .	3.7	. . . . .	. . . . .	1.2
No. of columns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Temperature of the air: Highest . . . . . 99°.0 on Aug. 6.
Lowest . . . . . 57°.5 on Aug. 19.

Extreme range . . . . . 41°.5

Rain fell on 4 days, amounting to 1.005 inches.

Barometer: Highest . . . . . 30in.162 on Aug. 25.
Lowest . . . . . 29in.677 on Aug. 13.

Extreme range 0in.485

Greatest force of wind . . . 3

WEATHER REMARKS.

Aug. 1. Generally clear; shower of rain at 8 p. m.
2. Rainy first part, clear latter part.
3. Generally clear and warm; hazy.
4. Clear, warm, and hazy.
5. Clear, hazy, and very warm.
6. Clear, hazy, and very warm.
7. Cloudy and warm with rain-storm at 5.40 p. m.
8. Clear and warm.
9. Generally cloudy and warm.
10. Clear and very warm.
11. Clear and warm.
12. Cloudy and warm.
13. Clear and very warm.
14. Generally cloudy and warm.
15. Clear and warm.
16. Clear and pleasant.

WEATHER REMARKS.

Aug. 17. Cloudy.
18. Cloudy, but pleasant weather.
19. Clear.
20. Clear and warm.
21. Clear and warm.
22. Rainy first three hours, afterwards clear.
23. Clear and very warm.
24. Clear and warm.
25. Clear and warm.
26. Clear and warm.
27. Clear; foggy at 6 a. m.
28. Clear and very warm.
29. Clear and very warm.
30. Clear and very warm.
31. Clear and warm.

TABLE I—Continued.

Month and Day.	Barom. Daily mean of corrected readings.	Temperature. Of the air. Highest.	Lowest.	Daily range	Mean of hourly readings.	Of evaporation. Mean of hourly readings.	In sun's rays as shown by thermometer with blackened bulb in vacuo placed on the grass. Highest.	Lowest.	Amount of rain and melted snow collected in gauge two feet above ground.	Clouds. Prevailing. A. M.	P. M.	Mean amount of cloudiness. 0=clear. 10=overcast.	Wind. General direction. A. M.	P. M.	Mean force. 0=calm
1881.	in.	°	°	°	°	°	°	°	in.						
Oct. 1	30.192	94.0	70.0	24.0	79.7	73.9	142.0	66.0	. . .	C. K. S.	C. K.	3.1	S.	S.	1
2	30.225	89.2	69.0	20.2	78.3	73.4	145.0	63.0	. . .	C. K.	C. K.	5.5	W.	S.-SE.	1
3	30.069	84.0	71.0	13.0	76.5	72.7	126.0	68.0	. . .	C. K.	C. K.	9.6	S.	Variable.	1
4	29.820	87.5	67.0	20.5	76.1	70.1	141.0	64.0	. . .	C. K. S.	C. K.	6.6	NW.	NW.	1
5	30.164	58.0	43.5	14.5	51.7	44.9	117.5	44.0	. . .	Clear N.	Clear.	1.2	NW.	N.	2
6	30.350	67.3	36.0	31.3	51.2	45.8	125.0	32.5	. . .	C. K.	C. K.	3.2	NW.	S.	1
7	30.270	74.0	51.5	22.5	61.4	56.6	133.0	50.0	. . .	C. K.	C. K. S.	7.2	Variable.	SE.-SW.	1
8	30.134	80.5	55.0	25.5	66.4	61.2	140.0	50.0	. . .	C. K.	C. K.	5.7	SE.	SE.	1
9	29.970	72.5	61.0	11.5	66.3	64.5	109.0	60.0	0.356	C. K.	C. K.	7.3	Variable.	NW.	1
10	30.100	72.5	54.0	18.5	61.0	58.2	122.0	50.0	. . .	Clear.	C. K. S.	0.5	NW.	NW.	1
11	30.430	60.0	37.5	22.5	48.4	46.6	119.0	33.2	. . .	Clear.	C. K.	0.5	NW.	SE.	1
12	30.273	63.5	44.0	19.5	53.3	51.8	119.0	40.0	0.108	C. K.	C. K. N.	6.0	Variable.	NW.	1
13	30.094	82.0	57.5	24.5	67.4	64.4	134.0	57.5	. .	C. K.	C. K. S.	7.1	Variable.	NW.	1
14	30.203	71.0	55.0	16.0	62.4	57.0	120.5	50.0	. . .	C. K. S.	C. K.	5.0	NW.	NE.	1
15	30.139	80.0	58.0	22.0	67.4	63.6	127.0	58.0	. . .	C. K.	Clear.	4.1	SE.	S.	1
16	30.130	88.5	63.0	25.5	73.9	69.8	136.0	59.0	. . .	C. S.	C. K.	0.8	S.	E.	1
17	30.102	85.0	63.0	22.0	73.1	69.4	135.5	59.5	. . .	C. K.	C. K. S.	1.1	SE.	S.-SE.	1
18	29.883	88.0	63.5	24.5	72.6	67.6	140.0	61.0	. . .	C. K. S.	C. K.	2.8	S.	NW.	1
19	30.110	60.6	47.5	13.1	54.8	49.6	120.0	48.0	. . .	C. K.	C. K. S.	5.2	N.-NW.	NE.	1
20	30.054	67.2	48.8	18.4	56.0	51.9	125.0	46.0	. . .	C. K.	C. K.	5.0	NE.	NW.	1
21	30.199	69.2	42.0	27.2	54.5	50.7	124.0	41.0	. . .	Clear.	C. K. S.	0.6	NW.	Variable.	1
22	30.217	73.5	42.0	31.5	56.9	52.3	125.0	37.0	. . .	Clear. Hazy.	Clear.	0.0	NW.	S.	1
23	30.070	71.6	48.0	23.6	58.9	56.1	123.5	41.0	. . .	C. K.	C. K.	5.6	SW.	Variable.	1
24	29.705	65.5	60.0	15.5	62.1	61.7	97.0	58.0	0.706	N.	C. K.	8.8	NW.	Variable.	1
25	29.562	67.5	55.0	12.5	60.5	57.8	119.0	51.0	0.460	C. K. N.	C. K.	4.3	S.	NW.	1
26	29.826	65.0	50.0	15.0	55.3	52.6	109.5	42.0	. . .	C. K.	C. K. S.	2.5	NW.	NW.	1
27	30.066	65.0	43.0	22.0	53.1	50.8	114.0	39.0	. . .	C. K.	C. K. S.	2.7	NW.	E.	1
28	30.079	64.5	47.5	17.0	55.7	54.9	85.5	45.0	0.008	Clear. Foggy.	K. Hazy.	2.5	NW.	NE.	1
29	29.955	69.0	61.5	7.5	65.1	64.9	83.0	60.0	0.330	K. N.	N.	10.0	NE.	S.	1
30	29.927	67.0	61.0	6.0	64.6	64.6	72.0	57.0	0.460	C. K. Foggy.	K. N.	6.2	NW.	S.	1
31	29.779	67.0	64.5	2.5	65.9	66.0	70.0	60.5	1.040	K. N.	C. K. S. N.	9.8	S.-SE.	S.	1
Means	30.067	73.2	54.5	18.7	62.9	59.5	119.3	51.3	Sum. 3.468	. . . . .	. . . . .	4.5	. . . . .	. . . . .	1.2
No. of columns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Temperature of the air: Highest . . . . . 94° on Oct. 1.
Lowest . . . . . 36° on Oct. 6.

Extreme range . . . . . 58°
Rain fell on 8 days, amounting to 3.468 inches.

Barometer: Highest . . . . . 30in.430 on Oct. 11.
Lowest . . . . . 29in.562 on Oct. 25.

Extreme range 0in.868
Greatest force of wind . . . 3.0

WEATHER REMARKS.

Oct. 1. Clear and warm.
2. Clear first part, cloudy latter part.
3. Cloudy and warm.
4. Clear first part, cloudy latter part.
5. Cloudy first three hours, afterwards clear and cool.
6. Clear first part, cloudy latter part.
7. Cloudy.
8. Generally cloudy.
9. Heavy shower at 4 p. m.; light one at 10 a. m.
10. Clear and pleasant.
11. Clear and pleasant.
12. Rain at noon.
13. Cloudy and warm.
14. Generally cloudy and warm.
15. Cloudy until 3 p. m., afterwards clear.
16. Clear and warm.

WEATHER REMARKS.

Oct. 17. Clear and warm.
18. Clear and warm.
19. Clear first part, cloudy latter part.
20. Cloudy until 9 a. m., afterwards clear.
21. Clear and pleasant.
22. Clear and pleasant.
23. Glear first part, cloudy latter part.
24. Cloudy and rainy first part.
25. Overcast and rainy first part; clear latter part.
26. Clear and pleasant.
27. Clear and pleasant.
28. Clear, foggy, and hazy at times.
29. Overcast and rainy.
30. Foggy and rainy.
31. Overcast, with heavy rain.

TABLE I—Continued.

Month and Day.	Barom. Daily mean of corrected readings.	Temperature. Of the air. Highest.	Lowest.	Daily range.	Mean of hourly readings.	Of evaporation. Mean of hourly readings.	In sun's rays as shown by thermometer with blackened bulb in vacuo placed on the grass. Highest.	Lowest.	Amount of rain and melted snow collected in gauge two feet above the ground.	Clouds. Prevailing. A. M.	P. M.	Mean am't of loudiness. 0 = clear. 10 = overcast.	Wind. General direction. A. M.	P. M.	Mean force. 0 = calm. 10 = violent hurricane.
1881.	in.	°	°	°	°	°	°	°	in.						
Dec. 1	29.879	61.5	50.0	11.5	53.7	52.6	107.0	43.0	.888	N. Foggy.	C. K.	7.7	S.	WNW.	1.7
2	30.307	48.8	36.5	12.3	41.7	39.7	103.0	30.0	. . .	C. K.	C. K. S.	6.7	NW.	ENE.	1.1
3	30.187	46.0	33.5	12.5	39.9	39.8	69.0	29.5	. . .	C. K. Hazy.	C. K.	8.3	NE.	NE.	1.0
4	30.158	49.0	38.2	10.8	43.2	42.3	93.0	33.0	. . .	C. K.	C. K. S.	7.6	NE.	N.	1.0
5	30.247	46.2	31.8	14.4	37.9	36.9	92.0	26.0	. . .	C. K. S.	C. K.	3.6	NNW.	NW.	1.5
6	30.085	42.0	28.0	14.0	34.7	34.7	60.0	21.5	. . .	Hazy. Foggy.	C. K.	4.7	NW.	SE.	1.1
7	29.680	53.0	39.5	13.5	42.1	39.8	100.0	32.5	.293	C. K. N.	C. K. S.	5.7	S.	NW.	2.2
8	30.003	43.0	31.8	11.2	35.8	34.6	95.2	25.0	. . .	C. K.	C. K. Hazy.	4.1	NW.	W.	2.0
9	30.053	50.6	30.0	20.6	38.6	37.5	96.5	20.0	. . .	C. K. S.	C. K. S.	6.1	NW.	NW.	1.0
10	30.272	40.0	28.8	11.2	36.1	33.4	95.0	20.0	. . .	C. K.	C. K.	5.5	NW.	N.-NW.	1.5
11	30.503	34.2	21.3	12.9	28.4	27.9	71.0	13.0	. . .	C. K.	C. K.	5.6	NW.	SE.	1.1
12	30.364	44.0	32.5	11.5	36.8	36.4	83.0	33.0	.346	C. K.	C. K. N.	10.0	SE.	S.	1.3
13	30.124	59.5	40.5	19.0	51.1	50.4	85.5	39.0	.006	C. K.	C. K. N.	9.1	S.	S. and W.	1.2
14	29.887	68.5	45.0	23.5	58.0	56.7	102.0	44.0	.468	C. K. N.	C. K. N.	9.7	SW.	S.	2.6
15	30.250	40.0	31.6	8.4	35.8	34.6	86.0	32.0	.400	C. K. N.	C. K.	8.1	NW.	NW.	1.8
16	30.551	39.0	25.5	13.5	30.7	29.5	91.0	22.0	. . .	Clear.	C. K. S. Hazy.	0.6	NW.	SW.	1.3
17	30.382	45.6	25.0	20.6	33.6	32.6	92.5	16.0	. . .	C. K.	C. K.	0.7	S.	Variable.	1.0
18	30.291	54.5	26.0	28.5	37.1	35.2	104.0	21.0	. . .	C. K. S.	C. K. S.	2.7	NW.	NW.	1.2
19	30.379	49.5	29.0	20.5	37.1	36.2	94.0	24.0	. . .	Clear.	C. K. Hazy.	2.8	NW.	ESE.	1.0
20	30.279	46.5	31.0	15.5	37.7	37.4	63.0	24.0	. . .	K. Ha'y. Fog'y.	C. K. Hazy.	3.7	NW.	S.	1.0
21	30.282	43.2	36.5	6.7	40.7	40.5	47.0	33.0	.794	N. Hazy.	N.	6.2	W.	NE.	1.2
22	29.892	56.6	43.0	13.6	49.4	49.4	56.0	41.0	3.400	N.	N.	10.0	E.	SE.	1.3
23	29.551	51.0	37.2	13.8	45.3	44.2	94.0	39.0	. . .	K. Foggy.	C. K.	5.8	W.	NW.	2.2
24	30.218	42.6	30.5	12.1	35.0	32.2	93.0	21.5	. . .	Clear.	Clear.	0.1	NW.	NW.	1.7
25	30.334	48.5	29.0	19.5	37.1	35.5	96.0	21.0	. . .	Clear.	C. K. S.	3.5	N.	S.	1.0
26	30.151	50.0	37.0	13.0	43.4	42.2	63.0	31.0	.048	C. K. S.	C. K. N.	8.7	SE.	NE.	1.0
27	29.730	61.5	51.5	10.0	55.9	55.8	70.0	47.5	1.380	K. N.	C. K. S.	8.0	NE.	NW.	1.0
28	29.838	60.7	49.0	11.7	52.9	51.3	77.0	45.0	. . .	C. K.	C. K. S.	7.2	N.	NW.	1.0
29	29.577	52.5	45.0	7.5	49.9	48.9	62.0	46.0	.374	K. N.	C. K. S. N.	10.0	SE.	S.-NW.	1.3
30	29.514	44.3	32.5	11.8	38.4	36.7	83.2	30.0	. . .	C. K.	C. K.	8.8	NW.	NW.	1.5
31	29.702	31.5	21.5	10.0	28.8	26.2	68.0	18.0	. . .	C. K. S.	C. K.	2.6	NW.	SW.	1.6
Means.	30.085	48.5	34.5	14.0	40.7	39.7	83.6	29.7	Sum. 8.397	. . . . .	. . . . .	5.9	. . . . .	. . . . .	1.4
No. of columns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Temperature of the air: Highest . . . . . 68°.5 on Dec. 14.
Lowest . . . . . 21°.3 on Dec. 11.

Extreme range . . . . . 47°.2

Rain fell on 11 days, amounting to 8.397 inches.

Barometer: Highest . . . . . 30in.379 on Dec. 19.
Lowest . . . . . 29in.551 on Dec. 23.

Extreme range 0in.828
Greatest force of wind . . . 4.0

WEATHER REMARKS.

Dec. 1. Cloudy; rainy first part; foggy first three hours.
2. Partially cloudy.
3. Cloudy; hazy from 6 a. m. to 9 a. m.
4. Cloudy, clearing latter part.
5. Clear and pleasant.
6. Cloudy; foggy and hazy first part.
7. Cloudy and rainy first part; clear latter part.
8. Generally clear and pleasant.
9. Partially cloudy.
10. Cloudy first part; clearing latter part.
11. Clear first part; cloudy with snow latter part.
12. Overcast and rainy.
13. Cloudy first part; raining latter part.
14. Overcast and rainy.
15. Overcast and rainy first part: clear latter part.
16. Clear and pleasant.

WEATHER REMARKS.

Dec. 17. Clear and pleasant.
18. Clear and pleasant.
19. Clear and pleasant.
20. Clear, hazy, and foggy.
21. Overcast with heavy rain latter part.
22. Overcast with heavy rain.
23. Cloudy and foggy until 9 a. m., afterwards clear.
24. Clear and pleasant.
25. Clear and pleasant.
26. Overcast with rain from 6 p. m. to midnight.
27. Overcast and rainy until 3 p. m.
28. Cloudy.
29. Overcast and rainy.
30. Cloudy.
31. Clear and cool.

TABLE II.

Month.	Corrected readings of barometer.				Temperature of the air.				
	Highest daily means.	Lowest daily means.	Extreme mean range for the month.	Monthly mean.	Highest daily means.	Lowest daily means.	Extreme mean range for the month.	Daily mean range.	Monthly mean.
1881.	in.	in.	in.	in.	°	°	°	°	°
January	30.548	29.383	1.765	30.083	41.6	— 16.5	58.1	12.3	25.9
February	30.671	29.424	1.247	30.119	61.0	— 1.0	62.0	18.4	31.5
March	30.025	29.145	0.880	29.691	62.0	25.0	37.0	14.2	39.3
April	30.111	29.491	0.621	29.831	84.5	37.5	47.0	16.9	49.4
May	30.293	29.602	0.691	29.955	94.0	47.0	47.0	23.1	66.2
June	30.044	29.583	0.461	29.825	90.7	54.0	36.7	16.8	69.6
July	30.105	29.658	0.447	29.875	96.2	61.0	35.2	19.5	76.4
August	30.162	29.677	0.485	30.096	99.0	57.5	41.5	23.6	76.4
September	30.165	29.809	0.356	29.998	107.0	65.3	41.7	21.2	76.8
October	30.430	29.562	0.868	30.067	94.0	36.0	58.0	18.7	62.9
November	30.579	29.708	0.871	30.110	75.2	20.0	55.2	14.9	46.7
December	30.379	29.551	0.828	30.085	68.5	21.3	47.2	14.0	40.7
	Highest.	Lowest.	Annual range.		Highest.	Lowest.	Annual range.		
	in.	in.	in.		°	°	°		
Means	30.671	29.145	1.526	29.977	107.0	— 16.5	123.5	17.8	55.1
Number of columns	1	2	3	4	5	6	7	8	9

TABLE II—Continued.

Month.	Mean temperature of evaporation.	Mean amount of clouds (0—10.).	Number of clear days.	Rain.		Wind.									
				Number of rainy days.	Amount of rain.	Number of times wind blew from—								Mean force.	Number of calms.
						N.	NE.	E.	SE.	S.	SW.	W.	NW.		
1881.					in.										
January	25.7	7.0	1	11	6.199	26	37	13	13	13	11	11	126	1.2	0
February	30.6	5.7	3	6	2.590	18	22	32	25	11	7	2	110	1.5	0
March	37.5	6.3	1	9	4.442	15	41	12	11	8	4	8	146	1.9	0
April	46.5	6.3	0	7	1.961	24	20	21	14	24	13	11	114	1.7	0
May	62.5	4.7	3	8	1.860	21	44	16	34	40	23	13	49	1.3	0
June	66.7	6.7	0	14	5.564	47	40	28	30	12	14	9	62	1.3	0
July	72.0	4.4	2	7	1.636	56	34	11	9	12	2	17	108	1.3	0
August	70.7	3.7	3	4	1.005	41	30	18	37	34	7	16	71	1.2	0
September	72.0	4.7	2	5	1.760	12	37	41	50	36	12	10	41	1.2	0
October	59.5	4.5	3	8	3.468	23	23	15	31	46	18	13	82	1.2	0
November	45.2	5.3	2	7	1.839	8	16	20	21	38	25	11	102	1.4	0
December	39.7	5.9	1	11	8.397	24	22	14	25	37	16	15	95	1.4	0
Total			21	97	40.701	315	366	241	300	311	152	136	1106	...	0
Means	52.4	5.4	....	....	3.392	...	...	...	...	...	...	...	...	1.4	...
Number of columns	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

The number of clear days in column 13 are days in which amount of cloudiness averaged 0.5 or less.
The number of rainy days in column 14 are days in which any measurable amount of rain fell.

Table III.

Maximum and Minimum Readings at the Hours of Observation in 1881.

Month.	Maximum.		Minimum.		Range.
	Day and hour.	Readings.	Day and hour.	Readings.	
	d. h.	in.	d. h.	in.	in.
January	18 9 a. m.	30. 629	21 9 a. m.	29. 218	1. 411
February	7 9 a. m.	30. 739	28 3 p. m.	29. 352	1. 343
March	15 9 a. m.	30. 283	30 noon.	29. 018	1. 265
April	30 9 p. m.	30. 222	1 midnight.	29. 441	. 781
May	4 9 a. m.	30. 344	15 6 p. m.	29. 526	. 818
June	24 7 a. m.	30. 085	3 3 p. m.	29. 542	. 543
July	30 noon.	30. 148	22 3 p. m.	29. 589	. 559
August	30 9 a. m.	30. 204	13 3 p. m.	29. 619	. 585
September	30 9 a. m.	30. 208	2 6 p. m.	29. 775	. 434
October	11 9 a. m.	30. 515	25 6 a. m.	29. 505	1. 010
November	16 9 a. m.	30. 650	24 3 p. m.	29. 625	1. 025
December	19 9 a. m.	30. 445	29 3 p. m.	29. 342	1. 103

	in.
Maximum for the year	30. 739
Minimum for the year	29. 018
Range for the year	1. 721
Mean monthly range	. 906

TABLE IV.

Day.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	21.5	—15.0	31.0	10.5	37.5	26.0	44.5	32.0	69.5	43.0	88.0	67.0	82.5	62.0	91.2	68.5	95.5	67.0	95.3	70.0	66.5	60.0	64.3	45.0
2	29.5	6.0	18.0	—2.0	44.5	26.0	44.5	29.0	75.7	56.7	69.0	60.0	85.5	62.0	89.0	66.0	92.5	69.5	93.9	69.0	61.0	56.5	51.0	34.5
3	30.5	0.2	22.5	—1.0	39.0	25.2	46.5	30.0	61.0	50.0	66.0	59.0	89.5	60.5	94.5	68.0	92.5	68.8	85.1	71.0	61.5	40.5	47.0	34.0
4	33.5	16.5	28.5	+6.0	36.7	27.0	42.0	26.5	66.0	50.0	69.7	55.5	91.3	67.8	95.5	68.0	88.0	72.0	90.9	59.0	50.8	37.5	52.5	35.0
5	34.3	31.0	28.1	8.0	36.0	26.0	39.0	23.2	68.0	47.0	74.5	54.0	94.5	69.0	98.0	69.0	97.0	74.5	59.5	40.0	60.9	36.5	47.5	31.0
6	36.5	31.6	37.5	9.0	46.1	25.0	45.5	27.0	68.5	54.5	73.5	59.0	96.7	73.0	99.5	72.5	96.5	72.0	68.5	36.0	67.5	40.5	44.5	28.0
7	40.5	26.0	38.9	3.2	50.3	31.0	57.5	27.0	73.5	52.5	70.7	60.0	92.0	71.0	89.0	69.0	108.5	69.0	77.5	53.0	59.7	48.8	54.0	35.0
8	29.5	17.0	42.5	27.0	56.0	27.0	42.1	32.8	77.0	51.0	88.0	62.0	90.5	70.0	84.3	65.0	97.5	72.0	85.0	. .	66.0	59.0	44.0	31.0
9	35.0	21.0	49.5	35.0	40.9	37.5	47.5	38.0	80.9	55.0	70.5	60.0	86.3	70.0	92.5	68.0	87.3	72.0	76.5	60.0	70.5	55.0	52.0	29.0
10	37.5	28.5	59.5	36.0	56.0	40.0	61.0	39.0	85.5	61.0	61.8	56.2	89.5	71.0	95.5	73.0	91.1	71.5	74.5	46.0	53.7	43.2	47.5	27.0
11	32.0	22.5	58.5	32.0	53.0	34.0	66.8	38.0	92.5	63.0	81.0	58.0	92.5	71.0	85.5	64.0	90.5	70.0	61.5	38.0	49.7	43.5	36.0	21.0
12	35.5	15.5	62.5	36.0	40.0	32.0	59.5	49.0	91.7	66.0	83.5	59.0	91.7	76.0	93.2	66.0	86.5	64.3	51.0	49.5	58.5	45.0	46.0	33.0
13	43.5	22.0	38.5	26.0	45.7	31.0	57.5	43.0	95.0	70.5	78.7	62.5	95.2	75.0	101.5	73.0	88.3	60.5	86.5	59.0	65.5	42.0	61.5	41.0
14	44.0	13.0	36.5	25.0	48.5	37.0	50.0	39.0	86.5	68.0	87.5	65.0	92.5	74.0	86.5	66.0	84.5	60.0	72.5	54.0	63.3	36.0	70.0	40.0
15	22.0	10.0	40.5	21.0	55.7	30.5	60.5	37.6	87.5	63.5	85.0	64.8	84.5	71.5	85.5	61.0	79.3	65.5	82.0	58.0	49.5	33.0	41.5	30.0
16	28.5	16.5	54.0	27.0	62.7	36.0	61.0	43.0	73.7	56.0	84.5	59.0	93.5	69.0	81.5	60.0	87.1	73.0	91.5	62.5	52.1	28.0	41.3	25.0
17	39.5	18.6	41.5	23.0	52.2	40.5	65.5	39.5	57.7	53.4	88.0	66.0	85.5	68.0	82.1	60.5	80.8	65.0	88.5	64.0	61.5	33.0	47.0	25.0
18	34.0	14.0	47.5	30.0	52.0	38.2	59.7	45.4	59.5	50.5	88.6	65.5	84.5	61.0	77.5	61.0	78.5	60.2	87.5	56.0	72.5	46.5	60.1	25.5
19	34.0	27.0	48.8	30.0	53.7	42.0	56.5	44.0	59.5	53.0	89.5	66.0	89.0	61.8	85.0	56.5	89.0	61.6	62.0	48.0	77.1	44.0	51.5	29.5
20	33.5	22.0	44.5	26.0	53.0	40.0	49.7	41.0	69.8	54.0	90.0	67.5	89.5	65.0	93.5	64.5	86.5	64.5	69.5	48.0	46.1	31.0	47.5	31.0
21	38.5	32.5	47.6	32.0	55.7	34.0	64.5	35.5	75.5	50.5	80.5	65.0	87.7	71.0	94.0	65.5	88.0	61.0	72.5	42.0	53.0	28.0	44.5	36.0
22	38.5	28.5	49.5	26.0	49.5	31.0	61.5	45.0	78.5	59.0	75.1	58.6	77.7	64.3	91.5	67.5	88.0	67.0	75.5	43.0	47.7	37.4	57.7	43.0
23	36.5	22.0	46.5	21.0	45.5	31.0	75.3	45.6	76.9	58.0	77.0	54.0	84.5	61.5	92.0	62.0	91.0	66.0	73.5	47.5	42.0	33.0	51.5	34.5
24	32.1	19.5	31.0	13.0	56.0	30.6	85.1	47.5	76.5	57.0	78.3	55.0	90.5	64.0	91.5	60.6	92.7	65.5	67.0	59.5	40.0	25.0	45.5	30.0
25	31.0	22.0	47.1	25.7	62.0	36.5	81.5	56.0	84.5	55.5	79.7	57.6	91.2	66.9	91.5	66.0	95.5	67.0	69.5	53.6	39.4	20.2	51.5	30.0
26	38.8	17.0	44.5	26.0	45.0	31.0	85.3	63.7	77.8	58.3	86.8	67.0	90.0	68.5	90.3	63.5	95.3	68.2	67.0	46.5	50.7	27.0	52.5	36.0
27	29.5	15.5	56.5	35.0	47.0	30.0	72.0	56.0	84.0	55.0	82.5	67.3	86.0	69.0	89.5	60.2	94.0	72.0	67.5	43.0	58.0	28.0	62.0	51.0
28	29.5	12.5	56.0	34.2	59.5	31.0	80.0	52.0	87.7	58.0	90.7	69.4	87.0	62.8	91.5	64.0	94.5	72.0	65.0	47.5	49.7	31.0	62.0	43.5
29	33.7	16.3	. .	. .	55.5	39.0	71.5	51.0	90.5	64.0	91.5	70.0	80.5	63.0	95.0	72.0	95.3	70.0	69.5	62.5	47.3	29.5	54.0	44.5
30	36.5	25.0	. .	. .	43.5	30.2	71.9	46.0	91.0	65.5	85.5	61.5	80.5	66.0	97.0	67.5	94.5	71.0	68.5	61.0	51.7	40.0	45.5	24.6
31	42.5	26.0	. .	. .	44.5	30.5	. .	. .	91.7	67.0	. .	. .	89.0	67.0	94.2	67.0	. .	. .	69.5	62.5	. .	. .	35.3	20.5
Means	34.2	18.7	43.2	22.2	49.1	32.5	60.2	40.7	77.9	56.9	80.5	61.7	88.4	67.5	90.8	65.7	90.8	67.7	74.9	53.6	56.4	38.6	50.6	33.0
Mean temp.	26.5		32.7		40.8		50.5		67.4		71.1		77.9		78.2		79.2		64.3		47.5		41.8	

	°
Mean temperature for the year from the maximum and minimum thermometers	56.4
Maximum temperature for the year	108.5
Minimum temperature for the year	— 15.0
Range during the year	123.5

TABLE V.—*Highest and lowest temperatures from maximum and minimum thermometers for each month in* 1881.

Month.	Maximum.		Minimum.		Range.	Month.	Maximum.		Minimum.		Range.
	Day.	Temp.	Day.	Temp.			Day.	Temp.	Day.	Temp.	
		°		°	°			°		°	°
January	14	44.0	1	—15.0	59.0	July	6	96.7	16	60.5	36.2
February	12	62.5	2	— 2.0	64.5	August	13	101.5	14	60.0	41.5
March	16	62.7	6	25.0	37.7	September	7	108.5	3	60.0	48.5
April	26	85.3	5	23.2	62.1	October	1	95.0	16	36.0	59.0
May	13	95.3	1	43.0	52.3	November	19	77.1	25	20.2	56.9
June	29	91.5	5 and 23	54.0	37.5	December	14	70.0	31	20.5	49.5

APPENDIX I 1881.

THE ORBITS OF OBERON AND TITANIA,

THE

OUTER SATELLITES OF URANUS.

BY

ASAPH HALL,

PROFESSOR OF MATHEMATICS, UNITED STATES NAVY.

746—81——1

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THE ORBITS OF OBERON AND TITANIA.

§ 1. It is well known that in the latter part of the preceding century Sir WILLIAM HERSCHEL announced the discovery of six satellites of Uranus, and the existence of other satellites of this planet was suspected by this distinguished astronomer. Only two of HERSCHEL'S satellites, however, have been verified by modern astronomers; although it has been thought that possibly he saw the very faint interior ones. But the discovery of these inner satellites, Ariel and Umbriel, is generally ascribed to Mr. LASSELL, in 1851, although they had been seen by him before that time, but no micrometrical measurements had been made. These satellites are among the most difficult objects we have to observe, and Mr. LASSELL deserves much honor for their certain discovery and observation. From a letter of Director OTTO STRUVE in the Astronomische Nachrichten, Band XXVI, p. 365, Umbriel seems to have been discovered and observed by STRUVE at Pulkowa, from October 8, 1847, to December 10 of the same year. It is probable, however, that the objects observed by STRUVE were not Umbriel, since a computation from Professor NEWCOMB'S tables does not show a satisfactory agreement or a consistent set of differences. The satellites discovered by Mr. LASSELL appear therefore to have been new ones, and they do not explain HERSCHEL'S conjectures of other satellites.

Again, the values of the mass of Uranus found from observations of the satellites were not very accordant, and did not agree well with some of the values found from the perturbations of the planets. Under these circumstances, therefore, and with a fair probability that some of HERSCHEL'S supposed satellites might be found, the satellites of Uranus were among the objects first carefully observed with the 26-inch refractor soon after it was mounted in November, 1873. These observations were made mostly by Professor NEWCOMB during the oppositions of 1874 and 1875; and have been discussed by him in Appendix I to the annual volume of the Naval Observatory for 1873. The chief result of these observations and their discussion is an excellent determination of the mass of the planet. Other interesting results are the facts that the orbits of these satellites are sensibly circular, and that the four satellites move in nearly the same plane. None of HERSCHEL'S supposed satellites were seen. In the years 1873 to 1875 the apparent orbits of these satellites were not well situated for a good determination of the eccentricity, and such a position will not occur again until about the beginning of the next century. The position of the orbits was better adapted for a good determination of the node and inclination; but as the earth would be nearly in the plane of the orbits of the satellites in the year 1882, and since observations of these satellites at such a time would be valuable for a good determination of

the position of this plane, I began a new series of observations of the two outer satellites in 1881, which were continued through the four oppositions of Uranus until May 28, 1884. My attention was confined mostly to the outer satellites, since the inner ones are very faint objects and can be observed well only on good nights, which do not occur often at the time of the year Uranus now comes into opposition. And I think it doubtful whether observations of the inner satellites can add much to our knowledge of the mass of the planet, or to the accuracy of the position of the orbit plane of the satellites. The observations of 1881–1884 were made with achromatic eye-pieces magnifying 606 and 888 times; and in nearly every case the angle of position depends on four settings of the circle, and the distance on three measurements of the double distance. In a fair condition of the atmosphere these satellites can be observed easily with our 26-inch refractor. In order to make the discussion complete, I have included my observations of 1875 and 1876, although the epoch of these is considerably distant from those of the later years. Many of the earlier observations were compared by Professor HOLDEN with NEWCOMB's tables, and I am indebted to him for the communication of his computations. Professor HOLDEN's results are published in the Astronomische Nachrichten, Band XCII. The present computations have been made by Lieut. W. H. ALLEN and Ensign J. A. HOOGEWERFF, U. S. Navy; and by a system of checks, and by duplication of the work when necessary, I think the numerical reductions are essentially correct.

§ 2. The following tables contain my observations of Oberon and Titania. The quantities will be understood by the headings of the columns; *p* and *s* being the angle of position and the distance, and their corrections for differential refraction follow. The reduction of the observed distance to the time when the angle of position was observed is given under the head *Reduction for Time.* The numbers in the column Wt. refer to the quality of the images, 1 denoting a very poor condition of the images, and 5 a perfect condition. I think I have estimated these numbers too small on account of the observations being made with high powers.

Observations of Oberon.

Date.	Washington M. T.	*p.*	Diff. Ref.	Washington M. T.	*s.*	Diff. Ref.	Red. for Time.	Wt.	Remarks.
1875.	h. m.	°	′	h. m.	″	″	″		
Apr. 20	8 28	101.40	0.00	8 48	24.83	+0.01	+0.02	2	
21	8 6	57.94	0.00	8 18	29.39	0.01	—0.07	2	
23	8 3	13.95	0.00	8 16	43.20	0.02	—0.03	3	
25	7 57	340.95	0.00	8 13	36.76	0.02	+0.09	3	
29	8 24	205.43	0.00	8 45	39.95	0.02	—0.10	2	
May 2	8 5	154.28	0.00	8 15	34.36	0.01	+0.06	3	
4	8 26	77.65	0.00	8 38	25.75	0.01	—0.04	2	
6	7 59	20.01	0.00	8 7	40.65	0.02	—0.03	4	
13	8 10	197.28	0.00	8 39	42.16	0.02	—0.09	3	
14	8 10	182.38	0.00	. .	. .	. .	. .	2	
16	9 17	138.30	0.00	9 24	29.73	0.01	+0.04	2	
17	8 28	95.90	0.00	8 37	24.00	0.01	0.00	2	
19	8 24	29.15	0.00	8 37	37.29	+0.02	—0.07	2	

Observations of Oberon—Continued.

Date.	Washington M. T.	*p.*	Diff. Ref.	Washington M. T.	*s.*	Diff. Ref.	Red. for Time.	Wt.	Remarks.
1875.	h. m.	°	°	h. m.	″	″	″		
May 22	8 25	338.75	0.00	8 41	35.47	+0.02	+0.09	2	
25	8 21	229.58	0.00	8 45	31.36	0.01	−0.19	2	
27	8 27	189.28	0.00	8 45	42.49	0.02	−0.01	3	
28	8 28	173.45	0.00	8 59	40.10	+0.02	+0.12	3	
1876.									
Mar. 9	8 54	57.40	0.00	9 6	27.28	+0.01	−0.08	3	Faint.
13	8 44	346.80	0.00	8 55	38.24	0.02	+0.07	2	
14	9 44	318.23	0.00	9 52	27.30	0.01	+0.06	2	
22	9 18	77.90	0.00	9 26	23.36	0.01	−0.03	3	
23	8 58	41.50	0.00	9 8	32.68	0.01	−0.08	3	
31	8 13	197.95	0.00	8 24	43.48	+0.02	−0.04	2	
Apr. 6	7 51	30.40	0.00	7 59	37.32	0.02	−0.05	3	
8	7 39	1.50	0.00	7 49	44.27	0.02	+0.02	2	
15	8 3	177.10	0.00	8 13	42.80	+0.02	+0.04	3	
1881.									
Mar. 2	11 4.6	16.10	0.00	11 24.6	43.13	+0.02	−0.11	2	
10	10 42.5	192.60	0.00	10 52.0	45.84	0.02	+0.03	3	
11	10 30.1	190.10	0.00	10 38.6	36.85	0.01	+0.08	2	Faint.
Apr. 4	9 0.3	198.90	0.00	9 8.8	34.66	0.01	−0.08	2	
5	9 52.0	195.10	0.00	10 4.8	45.07	0.02	−0.05	2	Clouds.
7	9 8.4	189.90	0.00	9 16.4	35.99	0.01	+0.07	2	Extremely faint. Haze.
26	8 16.7	13.40	0.00	8 22.2	45.45	0.02	+0.01	2	Faint. Cloudy.
27	8 38.4	10.80	0.00	8 46.9	38.16	0.01	+0.07	3	Very faint.
28	8 37.4	4.00	0.00	. .	. .	. .	. .	2	
May 1	7 48.6	197.60	0.00	7 57.6	34.36	0.01	−0.09	2	Faint. Haze.
16	8 31.5	194.20	0.00	8 41.5	44.83	0.01	0.00	2	
23	8 58.4	13.00	0.00	9 5.9	43.98	0.01	+0.01	2	
24	8 14.4	10.00	0.00	8 21.9	37.01	0.02	+0.06	2	
25	8 47.5	3.70	0.00	8 53.0	21.70	0.01	+0.07	3	
27	8 43.0	209.10	0.00	8 50.0	18.95	0.01	−0.09	3	Very faint.
28	8 51.1	199.50	0.00	9 2.1	34.86	0.02	−0.10	3	
30	8 31.1	192.50	0.00	8 40.1	42.93	+0.02	+0.03	3	
1882.									
Feb. 24	10 55.1	196.08	0.00	11 0.6	36.53	+0.01	+0.05	3	
25	11 8.1	196.55	0.00	11 17.1	19.85	0.01	+0.12	3	Faint.
Mar. 13	9 59.9	15.35	0.00	10 6.9	30.76	0.01	−0.08	2	
14	9 55.9	14.48	0.00	10 3.4	43.23	0.02	−0.04	2	
23	9 26.8	194.28	0.00	9 34.8	36.69	0.01	+0.07	2	Faint.
28	8 53.6	14.60	0.00	9 0.6	46.36	0.02	−0.02	2	
29	9 25.6	14.40	0.00	9 33.1	44.25	0.02	+0.03	3	
30	9 16.7	13.95	0.00	9 26.7	32.72	0.01	+0.11	2	Very faint. Moonlight.
Apr. 11	9 29.2	14.52	0.00	9 40.7	45.62	0.02	+0.02	2	
12	9 34.3	14.02	0.00	9 41.8	38.85	0.01	+0.06	2	
16	8 49.0	195.08	0.00	8 58.0	34.80	0.01	−0.09	2	
17	9 5.5	194.70	0.00	9 15.0	44.57	0.02	−0.03	2	
18	8 33.6	194.42	0.00	8 40.6	45.27	+0.02	+0.02	2	Faint.

Observations of Oberon—Continued.

Date.	Washington M. T.		p	Diff. Ref.	Washington M. T.		s	Diff. Ref.	Red. for Time.	Wt.	Remarks.
1882.	h.	m.	°	°	h.	m.	″	″	″		
Apr. 24	8	25.9	14.92	0.00	8	32.9	45.11	+0.02	−0.01	3	
25	8	39.0	13.72	0.00		. .	. .	. .	. .	2	Faint. Clouds.
May 1	7	59.7	194.80	0.00	8	10.2	46.08	0.02	0.00	2	Faint. Moonlight.
2	8	47.8	194.58	0.00	8	54.3	40.53	+0.02	+0.04	2	Faint. Moonlight.
1883.											
Mar. 8	10	9.6	198.70	0.00	10	17.6	36.54	+0.01	+0.07	3	
12	10	4.7	10.70	0.00	10	14.2	38.81	0.01	−0.08	2	Blazing images.
13	10	28.8	14.90	0.00	10	36.3	46.18	0.02	−0.02	3	
14	9	52.8	16.70	0.00	10	3.8	44.30	0.02	+0.05	2	Very faint: Hazy.
20	10	19.6	195.00	0.00	10	28.1	46.66	0.02	0.00	3	Hazy.
21	9	53.1	197.00	0.00	10	2.1	42.00	0.02	+0.06	2	Extremely faint. Moonlight.
April 3	11	21.7	196.50	0.00	11	29.7	44.99	0.02	+0.03	3	Faint. Hazy.
4	9	36.2	198.90	0.00	9	45.2	36.08	0.01	+0.09	2	Faint. Cloudy.
10	9	39.7	16.20	0.00	9	47.2	43.32	0.02	+0.04	3	
14	9	2.4	190.70	0.00	9	9.4	27.82	0.01	−0.08	3	
21	8	34.7	10.50	0.00	8	43.8	31.37	0.01	−0.10	2	Very faint.
24	9	35.0	18.40	0.00	9	43.5	37.77	0.01	+0.07	2	Blazing images.
25	9	9.0	20.80	0.00	9	17.0	22.04	0.01	+0.10	3	
30	9	12.7	196.30	0.00	9	23.2	44.35	0.02	+0.04	2	Very unsteady.
May 2	8	53.8	200.90	0.00	9	1.3	17.36	0.01	+0.10	3	Extremely faint.
6	7	55.5	15.10	0.00	8	2.5	45.17	0.02	−0.01	2	
7	9	11.6	17.00	0.00	9	20.5	42.54	0.02	+0.05	2	Hazy.
8	8	51.1	19.20	0.00	8	58.6	30.32	0.01	+0.08	2	Faint.
25	9	9.3	193.00	0.00	9	16.3	35.90	0.01	−0.06	2	Faint. Hazy.
27	8	24.4	196.40	0.00	8	33.4	42.94	+0.02	+0.03	2	
1884.											
Mar. 15	10	53.1	173.55	0.0.	11	3.1	20.26	+0.01	−0.12	3	Very faint.
22	9	27.3	358.61	0.00	9	35.3	24.24	0.01	−0.10	2	Faint. Misty.
24	9	57.3	13.45	0.00	10	5.3	46.39	0.02	−0.01	2	
29	9	42.0	182.38	0.00	9	50.5	28.65	0.01	−0.10	2	Windy.
30	9	12.6	190.33	0.00	9	19.6	41.46	0.02	−0.05	2	Windy and faint.
April 19	8	46.0	9.95	0.00	8	54.0	38.51	0.01	−0.06	2	Poor images.
20	8	7.0	14.25	0.00	8	14.5	45.84	0.02	−0.01	3	
26	8	42.8	191.48	0.00	8	53.3	42.32	0.02	−0.07	2	Images blurred and unsteady.
27	8	2.4	195.32	0.00	8	8.9	46.34	0.02	0.00	2	Hazy.
28	8	43.4	199.60	0.00	8	52.9	41.51	0.02	+0.06	2	Faint. Images blurred.
29	8	32.5	205.98	0.00	8	43.5	28.03	0.01	+0.13	2	Very faint.
May 9	8	1.5	189.45	0.00	8	12.5	36.38	0.01	−0.10	2	Misty. Extremely faint.
11	7	57.1	197.73	0.00	8	5.1	44.07	0.02	+0.03	2	
12	8	30.6	202.71	0.00	8	38.1	34.47	0.01	−0.06	2	Faint.
15	9	3.3	2.83	0.00	9	10.8	24.48	0.01	−0.09	3	Faint.
16	8	27.3	10.73	0.00	8	36.8	38.37	0.01	−0.07	2	Faint.
17	9	22.9	15.33	0.00	9	34.9	44.59	0.02	−0.01	2	Blazing images.
18	8	32.4	18.63	0.00	8	46.4	41.45	0.02	+0.07	3	Hazy and satellite very faint.
25	8	34.3	200.48	0.00	8	42.8	39.95	+0.02	+0.06	3	

Observations of Titania.

Date.	Washington M. T.		p	Diff. Ref.	Washington M. T.		s	Diff. Ref.	Red. for Time.	Wt.	Remarks.
1875.	h.	m.	°	°	h.	m.	″	″	″		
Apr. 20	8	1	26.52	0.00	8	14	29.69	+0.01	—0.08	2	
21	7	58	1.78	0.00	8	31	32.78	0.01	+0.05	3	
23	8	27	271.22	0.00	8	38	18.58	0.01	—0.01	3	
25	8	23	189.25	0.00	8	43	32.87	0.01	—0.02	3	
29	8	18	18.78	0.00	8	34	31.27	0.01	—0.06	2	
May 2	8	27	249.61	0.00	8	45	19.50	0.01	—0.08	2	
4	8	1	182.88	0.00	8	13	32.40	0.01	+0.01	3	
6	8	18	99.30	0.00	8	26	18.57	0.01	+0.00	3	
12	8	8	202.60	0.00	8	21	30.44	0.01	—0.06	2	
13	8	2	176.53	0.00	8	22	31.28	0.01	+0.07	3	
14	8	3	142.32	0.00	8	21	21.64	0.01	+0.13	2	
16	8	56	29.05	0.00	9	7	28.29	0.01	—0.07	2	
17	8	10	4.85	0.00	8	20	32.19	0.01	+0.01	2	
22	8	31	170.00	0.00	8	50	28.04	0.01	+0.10	2	
25	8	15	20.70	0.00	8	32	30.26	0.01	—0.08	3	
27	8	33	323.40	0.00	8	57	22.87	0.01	+0.17	2	
28	8	36	256.72	0.00	8	45	18.52	+0.01	—0.03	2	
1876.											
Mar. 9	8	33	339.70	0.00	8	43	26.45	+0.01	+0.09	3	Faint.
13	9	6	169.50	0.00	9	16	29.76	0.01	+0.07	2	
14	9	30	125.95	0.00	9	38	18.02	0.01	+0.05	2	
21	8	9	187.30	0.00	8	22	33.95	0.01	+0.01	2	
22	9	34	160.70	0.00	9	46	26.47	0.01	+0.10	3	
23	8	39	105.90	0.00	8	48	16.84	0.01	+0.02	3	
31	7	48	152.25	0.00	8	2	23.52	0.01	+0.12	2	
Apr. 6	8	8	224.95	0.00	8	18	23.35	0.01	—0.09	2	
8	7	59	173.70	0.00	8	9	30.97	0.01	+0.06	2	
15	8	24	212.15	0.00	8	35	27.54	+0.01	—0.09	3	
1881.											
Mar. 2	10	44.1	12.30	0.00	10	51.1	28.90	+0.01	+0.06	2	
7	10	28.4	184.60	0.00	10	34.8	17.88	0.01	+0.09	2	Faint.
10	10	24.5	14.00	0.00	10	33.5	34.78	0.01	+0.00	3	
11	10	13.6	9.40	0.00	10	21.6	24.87	0.01	+0.10	2	Faint.
26	8	57.5	23.30	0.00	9	6.5	18.98	0.01	—0.13	2	Very faint.
27	8	52.5	15.40	0.00	8	59.5	33.09	0.01	—0.04	2	
Apr. 4	8	43.8	20.10	0.00	8	51.8	23.97	0.01	—0.10	2	
5	9	21.8	15.10	0.00	9	29.3	34.44	0.01	—0.01	2	Cloudy.
22	8	46.0	16.50	0.00	8	54.5	31.64	0.01	—0.05	3	
23	8	7.1	12.70	0.00	8	14.6	32.07	0.01	+0.03	2	
27	8	23.9	193.70	0.00	8	30.9	33.88	0.01	+0.00	3	Faint.
28	8	17.4	186.90	0.00	8	28.4	24.26	0.01	+0.13	2	Faint.
30	8	49.0	20.80	0.00	8	56.5	21.32	0.01	—0.10	2	Faint.
May 1	8	5.1	15.20	0.00	8	10.6	33.18	0.01	—0.02	2	Faint.
20	8	25.7	5.40	0.00	8	32.7	18.87	0.01	+0.09	2	Faint.
23	9	14.9	194.60	0.00	9	22.9	33.18	0.01	—0.00	2	
24	8	29.4	189.60	0.00	8	36.9	25.53	+0.01	+0.08	2	

Observations of Titiania—Continued.

Date.	Washington M. T.	p	Diff. Ref.	Washington M. T.	s	Diff. Ref.	Red. for Time.	Wt.	Remarks.
1881.	h. m.	°	°	h. m.	″	″	″		
May 27	8 28.0	15.50	0.00	8 35.0	32.06	+0.01	−0.03	3	
28	8 34.6	11.40	0.00	8 42.6	29.42	+0.01	+0.06	3	
1882.									
Feb. 25	10 52.1	193.80	0.00	10 59.6	32.98	+0.01	−0.04	3	
Mar.. 14	10 10.9	193.70	0.00	10 16.9	27.17	0.01	−0.06	2	
23	9 44.8	194.30	0.00	9 44.8	31.28	0.01	0.00	2	Faint.
25	9 7.9	193.10	0.00	9 16.9	20.07	0.01	+0.13	2	Excessively faint. Sky thick.
28	9 7.6	14.40	0.00	9 15.1	34.55	0.01	−0.00	2	
29	9 39.6	14.90	0.00	9 47.1	25.84	0.01	+0.09	3	Faint.
April 11	8 48.2	193.10	0.00	9 1.7	27.02	0.01	+0.14	2	Faint.
18	8 48.1	195.20	0.00	8 56.1	28.91	0.01	−0.07	2	Faint. Hazy sky.
20	8 25.2	192.00	0.00	8 34.7	21.95	0.01	+0.12	2	Very faint.
24	8 11.9	14.40	0.00	8 18.4	28.27	0.01	+0.06	3	
May 1	8 19.2	16.00	0.00	8 27.7	26.68	0.01	−0.09	2	Very faint.
2	7 54.8	15.30	0.00	8 2.8	33.41	+0.01	+0.01	2	Faint.
1883.									
Mar. 8	10 9.6	198.70	0.00	10 24.6	23.24	+0.01	+0.19	3	
12	10 23.2	19.20	0.00	10 33.7	29.27	0.01	+0.10	2	Very faint.
17	9 56.9	203.10	0.00	10 4.9	17.65	0.01	+0.12	2	Very faint.
20	10 5.1	15.80	0.00	10 11.1	34.65	0.01	+0.01	3	Hazy.
21	9 35.6	19.70	0.00	9 44.6	24.84	0.01	+0.11	2	Extremely faint. Moonlight.
24	9 43.3	193.90	0.00	9 50.8	34.17	0.01	−0.02	2	Images blazing. Moonlight.
Apr. 3	11 1.7	198.70	0.00	11 14.7	24.89	0.01	+0.16	3	Faint. Hazy.
10	9 25.2	193.10	0.00	9 32.7	30.40	0.01	−0.07	3	
14	8 50.4	11.70	0.00	8 56.4	24.70	0.01	−0.07	3	
24	9 16.0	16.00	0.00	9 25.0	33.51	0.01	+0.03	2	Blazing images.
27	8 32.6	191.50	0.00	8 42.6	23.41	0.01	−0.13	2	Clouds.
May 2	9 8.3	14.20	0.00	9 16.8	32.05	0.01	−0.06	3	
3	9 5.4	17.30	0.00	9 12.9	31.53	0.01	+0.04	3	
6	8 9.5	192.70	0.00	8 16.0	27.63	0.01	−0.06	2	
7	8 53.6	196.00	0.00	9 3.1	34.07	0.01	+0.02	2	Hazy.
8	8 36.1	198.80	0.00	8 43.6	23.47	0.01	+0.10	2	Faint.
16	9 2.5	196.10	0.00	9 18.5	31.99	0.01	+0.08	2	Faint. Very unsteady.
24	8 28.8	194.20	0.00	8 39.3	32.99	0.01	−0.03	2	
25	8 54.3	196.60	0.00	9 1.8	28.63	+0.01	+0.06	2	
1884.									
Mar. 15	10 37.1	193.88	0.00	10 45.1	34.35	+0.01	−0.02	3	
24	9 42.3	195.38	0.00	9 49.8	34.91	0.01	0.00	2	
27	9 36.5	2.33	0.00	9 43.5	21.97	0.01	−0.09	2	Faint.
28	9 32.5	14.08	0.00	9 40.5	34.30	0.01	−0.03	2	Faint. Misty.
29	9 23.5	21.03	0.00	9 31.0	30.17	0.01	+0.06	2	Windy.
Apr. 3	9 40.7	209.63	0.00	9 48.7	19.01	0.01	+0.11	2	Very faint.
11	9 11.1	198.18	0.00	9 23.6	30.85	0.01	+0.10	2	Faint. Cloudy.
19	8 30.5	194.30	0.00	8 37.5	34.80	0.01	−0.01	2	Poor images.
20	8 21.5	201.28	0.00	8 28.5	27.58	+0.01	+0.07	3	

Observations of Titania—Continued.

Date.	Washington M. T.	*p*.	Diff. Ref.	Washington M. T.	*s*.	Diff. Ref.	Red. for Time.	Wt.	Remarks.
1884.	h. m.	°	°	h. m.	″	″	″		
Apr. 27	8 15.9	189.90	0.00	8 21.9	28.97	+0.01	—0.05	2	Hazy. Faint.
28	8 27.4	197.55	0.00	8 35.4	23.89	0.01	+0.02	2	Faint. Images blurred.
29	8 55.0	205.00	0.00	9 4.0	22.28	0.01	+0.12	2	Very faint.
May 1	8 38.6	6.43	0.00	8 48.6	23.90	0.01	—0.13	2	Extremely faint.
11	8 14.6	16.28	0.00	8 22.1	33.56	0.01	+0.02	2	
12	8 13.6	24.41	0.00	8 22.6	22.87	0.01	+0.11	2	Faint.
15	8 46.8	194.33	0.00	8 54.8	33.89	0.01	—0.02	3	
16	8 9.3	200.81	0.00	8 18.8	28.84	0.01	+0.08	2	Faint.
20	8 49.0	19.05	0.00	8 56.5	31.83	0.01	+0.04	2	
25	8 19.3	202.93	0.00	8 27.3	24.12	0.01	+0.09	3	Faint.
28	8 23.0	15.25	0.00	8 33.5	32.61	+0.01	—0.04	2	Faint. Hazy.

Since these satellites would be near each other apparently during the years 1881–1884, and would offer a good opportunity for comparisons of their brightness, I give below my notes of this kind.

1881. March 2. Oberon is brighter than Titania.
1881. March 10. Oberon is a little brighter than Titania.
1881. March 11. Oberon brighter than Titania. Images blurred.
1881. April 4. Oberon decidedly brighter than Titania.
1881. April 5. Oberon is a little brighter than Titania.
1881. April 27. Oberon is fainter than Titania. A good comparison of magnitudes. Hazy.
1881. April 28. Titania brighter than Oberon. Both satellites faint, and Oberon excessively so. Thin clouds or haze in the sky. Clouds.
1881. May 1. Titania brighter than Oberon.
1881. May 24. Oberon brighter than Titania.
1881. May 25. Ariel well seen to-night, but Oberon is decidedly brighter; say Oberon = 15th mag., Ariel = 16th mag.
1881. May 28. Titania and Oberon very nearly equal in brightness, but Titania a *little* the brighter.
1882. March 14. Titania is a little fainter than Oberon, which is very faint for its distance, but the sky is not clear and the images are poor.
1882. March 23. The satellites are near together and are of nearly equal brightness. Sky thick.
1882. March 28. Oberon brighter than Titania.
1882. April 18. The sky hazy and both satellites faint. Oberon is brighter than Titania.
1882. May 1. Titania is a little fainter than Oberon. Strong moonlight.
1882. May 2. Titania a little brighter than Oberon.

1883. March 8. Oberon much brighter than Titania.
1883. March 12. Oberon much brighter than Titania.
1883. March 21. Both satellites very faint in the moonlight, Titania a little the brighter.
1883. April 14. Titania a little brighter than Oberon.
1883. April 24. Titania is a little brighter than Oberon.
1883. May 8. The sky thick and the satellites faint. Oberon a little brighter than Titania.
1883. May 25. Titania brighter than Oberon. Hazy.
1884. March 24. Oberon and Titania nearly equal in brightness, but perhaps Oberon a little the brighter.
1884. March 29. Titania a little brighter than Oberon.
1884. April 28. Oberon and Titania nearly equal in brightness. The sky misty.
1884. April 29. Oberon a little brighter than Titania.
1884. May 16. Oberon a little brighter than Titania.

I infer from these comparisons that Titania is a brighter object than Oberon, but the difference in brightness is not great.

The following tables give the Washington mean times of the observations corrected for aberration, and the results of the comparisons of the observations with Professor NEWCOMB's tables of these satellites. A glance at the residuals $\Delta p''$ and Δs shows that the elements are very nearly correct. The quantities are taken in the sense of the computed minus the observed position.

OBERON.

Date.	Washington M. T.	Δp	$\Delta p''$	Δs	Date.	Washington M. T.	Δp	$\Delta p''$	Δs
1875.	h. m.	°	″	″	1876.	h. m.	°	″	″
Apr. 20	5 56.6	− 0.50	− 0.22	+ 0.11	Mar. 14	7 17.6	+ 1.21	+ 0.57	− 0.19
21	5 34.4	+ 0.20	+ 0.10	− 0.45	22	6 50.9	− 0.50	− 0.20	+ 0.01
23	5 31.2	− 0.59	− 0.45	+ 0.28	23	6 30.8	− 0.39	− 0.22	− 0.02
25	5 24.9	− 0.45	− 0.29	+ 0.44	31	5 44.9	+ 0.20	+ 0.15	− 0.19
29	5 51.3	0.00	0.00	− 0.38	Apr. 6	5 22.2	+ 0.04	+ 0.03	+ 0.05
May 2	5 31.9	+ 0.15	+ 0.09	+ 0.28	8	5 10.0	− 0.10	− 0.08	− 0.09
4	5 52.6	− 1.65	− 0.74	− 0.15	15	5 33.1	+ 0.27	+ 0.20	− 0.19
6	5 25.4	+ 0.95	+ 0.68	+ 0.21	1881.				
13	5 35.4	− 0.87	− 0.64	− 0.10	Mar. 2	8 41.1	− 0.03	− 0.02	+ 0.23
14	5 35.3	− 1.13	− 0.85		10	8 18.9	+ 0.91	+ 0.73	− 0.03
16	6 42.0	− 0.15	− 0.07	− 0.75	11	8 6.4	+ 0.85	+ 0.55	+ 0.12
17	5 52.8	+ 1.67	+ 0.70	+ 0.07	Apr. 4	6 35.5	+ 0.20	+ 0.12	− 0.27
19	5 48.5	− 0.02	− 0.01	+ 0.08	5	7 27.1	+ 0.53	+ 0.41	− 0.25
22	5 49.2	+ 0.22	+ 0.14	− 0.04	7	6 43.3	+ 0.08	+ 0.05	+ 0.50
25	5 44.8	− 2.98	− 1.60	− 0.41	26	5 49.7	+ 0.23	+ 0.18	− 0.01
27	5 50.5	− 1.17	− 0.88	+ 0.40	27	6 11.3	− 0.36	− 0.24	+ 0.49
28	5 51.4	− 0.59	− 0.42	+ 0.26	28	6 10.2	+ 0.44	+ 0.18	
1876.									
Mar. 9	6 28.0	+ 0.13	+ 0.06	− 0.28	May 1	5 21.0	+ 1.88	+ 1.11	− 0.31
13	6 17.7	− 0.13	− 0.09	− 0.04	16	6 1.9	− 0.08	− 0.06	+ 0.03

Oberon—Continued.

Date.	Washington M. T.	Δp	$\Delta p''$	Δs	Date.	Washington M. T.	Δp	$\Delta p''$	Δs
1881.	h. m.	°	″	″	1883.	h. m.	°	″	″
May 23	6 27.9	+ 0.31	+ 0.24	+ 0.20	Apr. 10	7 15.2	+ 0.60	+ 0.46	+ 0.30
24	5 43.8	+ 0.11	+ 0.07	+ 0.13	14	6 37.6	— 1.05	— 0.50	— 0.30
25	6 16.7	— 0.31	— 0.12	+ 0.27	21	6 9.3	+ 0.54	+ 0.30	+ 0.13
27	6 12.0	— 1.83	— 0.60	— 0.13	24	7 9.4	— 0.59	— 0.39	+ 0.33
28	6 19.9	— 0.54	— 0.33	— 0.09	25	6 43.3	+ 1.05	+ 0.42	+ 0.79
30	5 59.6	+ 0.10	+ 0.07	— 0.03	30	6 46.4	— 0.16	— 0.12	+ 0.08
1882.									
Feb. 24	8 31.5	— 0.15	— 0.10	+ 0.39	May 2	6 27.3	+ 2.85	+ 0.89	+ 0.49
25	8 44.5	+ 0.85	+ 0.30	+ 0.04	6	5 28.6	— 0.32	— 0.25	+ 0.14
					7	6 44.6	— 0.42	— 0.31	— 0.07
Mar. 13	7 36.4	— 0.90	— 0.48	+ 0.07	8	6 24.0	— 0.15	— 0.08	+ 0.42
14	7 32.4	+ 0.31	+ 0.23	+ 0.07	25	6 40.0	— 0.39	— 0.24	— 0.22
23	7 3.0	+ 0.65	+ 0.42	+ 0.07	27	5 54.8	— 0.30	— 0.23	+ 0.32
28	6 29.6	+ 0.32	+ 0.26	— 0.36					
29	7 1.6	+ 0.42	+ 0.32	— 0.07	1884.				
30	6 52.6	+ 0.68	+ 0.39	+ 0.19	Mar. 15	8 29.6	— 0.21	— 0.07	— 0.02
					22	7 3.8	— 0.31	— 0.13	— 0.40
Apr. 11	7 4.2	+ 0.25	+ 0.20	— 0.39	24	7 33.7	+ 0.85	+ 0.69	— 0.01
12	7 9.2	+ 0.36	+ 0.24	+ 0.03	29	7 18.3	+ 0.37	+ 0.18	— 0.13
16	6 23.6	+ 0.46	+ 0.28	— 0.02	30	6 48.9	+ 0.24	+ 0.17	+ 0.17
17	6 40.0	+ 0.33	+ 0.26	+ 0.15	Apr. 19	6 21.1	— 0.21	— 0.14	+ 0.48
18	6 8.0	+ 0.21	+ 0.17	— 0.22	20	5 42.0	+ 0.11	+ 0.09	+ 0.07
24	5 59.7	+ 0.02	+ 0.02	+ 0.35	26	6 17.3	— 0.21	— 0.15	— 0.76
25	6 12.7	+ 0.71	+ 0.54		27	5 36.8	+ 0.12	+ 0.10	— 0.29
May 1	5 32.7	0.00	0.00	— 0.46	28	6 17.7	+ 0.26	+ 0.19	— 0.58
2	6 20.7	— 0.39	— 0.28	+ 0.24	29	6 6.7	+ 0.96	+ 0.46	— 0.50
1883.									
Mar. 8	7 46.1	+ 1.04	+ 0.67	+ 0.22	May 9	5 34.6	— 0.74	— 0.46	— 0.71
12	7 59.7	+ 0.86	+ 0.58	— 0.32	11	5 30.0	— 0.22	— 0.17	+ 0.15
13	8 5.3	— 0.30	— 0.24	+ 0.16	12	6 3.4	— 0.05	— 0.03	+ 0.02
14	7 29.3	+ 0.40	+ 0.31	+ 0.04	15	6 35.8	— 0.12	— 0.05	+ 0.46
20	7 56.0	+ 0.25	+ 0.20	+ 0.06	16	5 59.7	— 0.31	— 0.21	+ 0.49
21	7 29.5	+ 0.71	+ 0.52	+ 0.15	17	6 55.2	— 0.44	— 0.35	+ 0.68
					18	6 4.5	+ 0.08	+ 0.06	+ 0.61
Apr. 3	8 57.7	— 0.04	— 0.03	+ 0.02	25	6 5.4	— 0.55	— 0.38	— 0.51
4	7 12.1	+ 0.04	+ 0.03	— 0.15					

TITANIA.

1875.					1875.				
Apr. 20	5 29.6	— 0.54	— 0.28	— 0.06	May 12	5 33.5	— 3.16	— 1.69	+ 0.31
21	5 26.2	— 0.48	— 0.28	+ 0.01	13	5 27.4	— 0.77	— 0.42	— 0.01
23	5 55.2	+ 1.56	+ 0.51	— 0.02	14	5 28.3	+ 0.42	+ 0.17	+ 0.88
25	5 50.9	— 0.12	— 0.07	0.00	16	6 20.9	— 0.70	— 0.34	— 0.06
29	5 45.3	— 1.04	— 0.57	+ 0.23	17	5 34.8	— 0.80	— 0.45	+ 0.07
May 2	5 53.9	+ 2.49	+ 0.85	+ 0.05	22	5 55.2	— 2.29	— 1.16	+ 0.91
4	5 27.6	— 0.18	— 0.10	+ 0.16	25	5 38.8	+ 0.17	+ 0.09	— 0.19
6	5 44.4	— 1.63	— 0.52	— 0.32	27	5 56.5	+ 1.49	+ 0.59	— 0.37

Titania—Continued.

Date.	Washington M. T.	Δp	$\Delta p''$	Δs
1875.	h. m.	°	″	″
May 28	5 59.4	+ 2.89	+ 0.92	− 0.31
1876.				
Mar. 9	6 7.0	+ 1.27	+ 0.58	− 0.16
13	6 39.7	+ 1.05	+ 0.55	+ 0.24
14	7 3.6	+ 0.71	+ 0.23	+ 0.14
21	5 41.9	− 0.44	− 0.26	+ 0.13
22	7 6.9	+ 0.46	+ 0.21	− 0.10
23	6 11.8	+ 0.49	+ 0.14	− 0.15
31	5 19.9	+ 0.54	+ 0.22	0.00
Apr. 6	5 39.2	− 0.85	− 0.35	− 0.01
8	5 30.0	+ 0.54	+ 0.29	+ 0.02
15	5 54.1	+ 0.80	+ 0.37	− 0.70
1881.				
Mar. 2	8 20.6	− 0.44	− 0.23	+ 0.48
7	8 4.9	+ 2.79	+ 0.89	+ 0.22
10	8 0.9	+ 0.16	+ 0.10	+ 0.05
11	7 50.0	+ 0.73	+ 0.32	+ 0.27
26	6 33.1	− 0.96	− 0.31	− 0.40
27	6 28.0	+ 0.42	+ 0.24	+ 0.14
Apr. 4	6 19.0	− 0.26	− 0.11	+ 0.02
5	6 56.9	− 0.49	− 0.29	+ 0.03
22	6 19.4	+ 0.04	+ 0.02	+ 0.05
23	5 40.4	− 0.45	− 0.26	+ 0.38
27	5 56.8	+ 0.04	+ 0.02	+ 0.07
28	5 50.2	+ 1.32	+ 0.56	− 0.23
30	6 21.6	+ 0.76	+ 0.28	+ 0.14
May 1	5 37.6	+ 0.12	+ 0.07	+ 0.11
20	5 55.7	+ 0.16	+ 0.05	+ 0.42
23	6 44.5	− 0.52	− 0.30	+ 0.08
24	5 58.9	− 0.62	− 0.28	− 0.20
27	5 57.1	+ 0.30	+ 0.17	− 0.09
28	6 3.5	− 0.20	− 0.10	+ 0.33
1882.				
Feb. 25	8 28.5	+ 0.81	+ 0.46	− 0.19
Mar. 14	7 47.4	+ 0.93	+ 0.44	+ 0.24
23	7 21.0	+ 0.60	+ 0.32	− 0.26
25	6 44.1	+ 1.70	+ 0.60	− 0.06
28	6 43.6	+ 0.49	+ 0.30	+ 0.20
29	7 15.6	− 0.23	− 0.11	+ 0.32
Apr. 11	6 23.3	+ 1.23	+ 0.59	+ 0.45
18	6 22.6	+ 0.21	+ 0.10	− 0.21
20	5 59.5	+ 1.75	+ 0.70	+ 0.74
24	5 45.8	− 0.30	− 0.15	+ 0.27

Date.	Washington M. T.	Δp	$\Delta p''$	Δs
1882.	h. m.	°	″	″
May 1	5 52.3	− 0.33	− 0.16	+ 0.62
2	5 27.8	− 0.60	− 0.36	+ 0.55
1883.				
Mar. 8	7 46.1	+ 2.71	+ 1.12	+ 0.29
12	7 59.7	− 0.32	− 0.16	− 0.12
17	7 33.3	+ 0.88	+ 0.28	+ 0.29
20	7 41.5	− 0.18	− 0.11	+ 0.15
21	7 12.0	+ 0.45	+ 0.20	+ 0.24
24	7 19.6	+ 0.38	+ 0.23	− 0.03
Apr. 3	8 37.7	+ 0.91	+ 0.40	+ 0.05
10	7 0.7	− 0.23	− 0.12	− 0.14
14	6 25.6	− 0.55	− 0.24	− 0.14
24	6 50.4	− 0.15	− 0.09	+ 0.39
27	6 6.8	− 0.42	− 0.17	− 0.31
May 2	6 41.8	− 0.32	− 0.18	+ 0.06
3	6 38.8	− 0.70	− 0.39	+ 0.34
6	5 42.6	− 0.12	− 0.06	− 0.20
7	6 26.6	− 0.42	− 0.25	− 0.24
8	6 9.0	+ 0.15	+ 0.06	− 0.25
16	6 34.5	+ 0.24	+ 0.13	0.00
24	5 59.6	+ 0.30	+ 0.17	− 0.12
25	6 25.0	+ 0.56	+ 0.28	+ 0.28
1884.				
Mar. 15	8 13.6	+ 0.35	+ 0.21	+ 0.29
24	7 18.7	+ 0.70	+ 0.43	− 0.11
27	7 12.8	+ 0.72	+ 0.27	− 0.25
28	7 8.8	− 0.54	− 0.32	− 0.11
29	6 59.8	− 0.12	− 0.06	+ 0.18
Apr. 3	7 16.7	− 0.11	− 0.04	+ 0.48
11	6 46.6	+ 1.85	+ 1.00	+ 0.11
19	6 5.6	+ 0.61	+ 0.37	− 0.31
20	5 56.5	+ 0.86	+ 0.41	− 0.06
27	5 50.3	− 0.03	− 0.02	− 0.05
28	6 1.7	− 0.84	− 0.50	+ 0.09
29	6 29.2	+ 0.65	+ 0.25	− 0.23
May 1	6 12.6	− 0.02	− 0.01	− 0.22
11	5 47.5	− 0.04	− 0.02	+ 0.30
12	5 46.4	− 0.27	− 0.11	+ 0.55
15	6 19.3	− 0.06	− 0.04	− 0.29
16	5 41.7	− 0.26	− 0.13	− 0.10
20	6 20.8	− 0.87	− 0.49	+ 0.18
25	5 50.4	+ 0.40	+ 0.17	0.00
28	5 53.7	− 1.43	− 0.82	+ 0.33

§ 3. If N and J are the node and inclination of the orbit of the satellite on the equator, u the longitude in the orbit, e the eccentricity, and a the mean distance, and if we put

$$\xi = ae \cos \omega; \qquad \eta = ae \sin \omega,$$

the equations of condition are of the form,

$$ds = \mathrm{P} \,.\, \Delta \mathrm{N} + \mathrm{Q} \,.\, \Delta \mathrm{J} + \mathrm{R} \,.\, \Delta u + \mathrm{T} \,.\, \xi + \mathrm{U} \,.\, \eta + \mathrm{V} \,.\, \Delta a$$
$$sdp = \mathrm{P}' \,.\, \Delta \mathrm{N} + \mathrm{Q}' \,.\, \Delta \mathrm{J} + \mathrm{R}' \,.\, \Delta u + \mathrm{T}' \,.\, \xi + \mathrm{U}' \,.\, \eta$$

The coefficients have the following values:

$$\begin{aligned}
\mathrm{P} &= k \,.\, \{c \sin u \cos \mathrm{J} \cos (\alpha - \mathrm{N} - \mathrm{C}) - c \cos u \sin (\alpha - \mathrm{N} - \mathrm{C})\} \\
\mathrm{Q} &= k \,.\, \sin u \sin \mathrm{J} \,.\, \{\cos \delta \cos p \operatorname{cotg} \mathrm{J} + c \sin (\alpha - \mathrm{N} - \mathrm{C})\} \\
\mathrm{R} &= k \,.\, \{f \cos (\mathrm{F} + u) \sin p + g \cos (\mathrm{G} + u) \cos p\} \\
\mathrm{T} &= \quad 2 \,\mathrm{R} \sin u - \frac{s}{a} \cos u \\
\mathrm{U} &= -2 \,\mathrm{R} \cos u - \frac{s}{a} \sin u \\
\mathrm{V} &= \frac{s}{a}; \\
\mathrm{P}' &= k \,.\, \{-b \sin u \cos \mathrm{J} \cos (\alpha - \mathrm{N} + \mathrm{B}) + b \cos u \sin (\alpha - \mathrm{N} + \mathrm{B})\} \\
\mathrm{Q}' &= -k \,.\, \sin u \sin \mathrm{J} \,.\, \{\cos \delta \sin p \operatorname{cotg} \mathrm{J} + b \sin (\alpha - \mathrm{N} + \mathrm{B})\} \\
\mathrm{R}' &= k \,.\, \{f \cos (\mathrm{F} + u) \cos p - g \cos (\mathrm{G} + u) \sin p\} \\
\mathrm{T}' &= \quad 2 \,\mathrm{R}' \sin u \\
\mathrm{U}' &= -2 \,\mathrm{R}' \cos u.
\end{aligned}$$

In these equations we have $k = \frac{a\rho_0}{\rho}$, and the auxiliary quantities are computed by the formulæ,

$$c \sin \mathrm{C} = \sin p \qquad b \sin \mathrm{B} = \cos p$$
$$c \cos \mathrm{C} = \cos p \sin \delta \qquad b \cos \mathrm{B} = \sin p \sin \delta$$

I take ρ_0 equal to the mean distance of the planet from the sun, and ρ is its distance from the earth; α and δ are the geocentric right ascension and declination of the planet. The quantity a has been put equal to unity in the case of each satellite.

The equations of condition are as follows, the last column containing the Greenwich mean time of the observation. This is the time at which the angle of position was observed and for which the computation is made, the observed distance being reduced to this time. n is the difference between the computed and observed position; and the column *Residual* gives the residuals found by substituting the values of the corrections which result from the least square solution.

Equations of Condition.

OBERON.

Date.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.	Greenwich M. T.
1875.								″	
Apr. 20	9.9097	9.1451*n*	8.7934*n*	9.7817*n*	8.4364	9.7727	9.0414	+ 0.236	
	9.5322*n*	8.0835	0.0212*n*	9.5288*n*	0.3165	. . . .	9.3424*n*	— 0.150	20.4617
21	9.8090	9.6021*n*	9.6074	8.9338*n*	0.0241*n*	9.8357	9.6532*n*	— 0.317	
	9.2733	9.4921*n*	9.9573*n*	0.0231*n*	0.1685	. . . .	9.0000	+ 0.230	21.4462
23	8.6340	9.0587*n*	9.2066	9.4825	0.0157*n*	0.0134	9.4472	+ 0.239	
	9.1427*n*	9.9352*n*	9.7780*n*	0.0789*n*	8.3209*n*	. . . .	9.6532*n*	— 0.392	23.4440
25	9.2507	9.3574	9.6227*n*	9.2751	0.0809*n*	9.9470	9.6435	+ 0.373	
	9.8908*n*	9.6798*n*	9.8428*n*	9.9297*n*	0.0424*n*	. . . .	9.4624*n*	— 0.513	25.4397
29	9.2746	9.4319*n*	9.5564	9.5472*n*	0.0523	9.9717	9.5798*n*	— 0.341	
	9.0218	9.8839*n*	9.8144*n*	0.0879	9.6534*n*	. . . .	. . . . .	+ 0.514	29.4580
May 2	9.4176	9.3581	9.6533*n*	9.4080*n*	0.0765	9.9156	9.4472	+ 0.303	
	9.9041*n*	9.5697*n*	9.8679*n*	9.8723	0.1049	. . . .	8.9542	+ 0.262	2.4445
4	9.8913	9.5094*n*	9.3789	9.5624*n*	9.8331*n*	9.7829	9.1761*n*	— 0.009	
	7.7869	9.0707*n*	9.9987*n*	9.9009*n*	0.2620	. . . .	9.8692*n*	— 0.640	4.4589
6	9.1004	9.3337*n*	9.4727	9.5453	0.0339*n*	9.9864	9.3222	+ 0.217	
	8.4579	9.9074*n*	9.7932*n*	0.0820*n*	9.4627	. . . .	9.8325	+ 0.785	6.4400
13	8.8543	9.1839*n*	9.3373	9.5125*n*	0.0158	9.9984	9.0000*n*	— 0.118	
	8.8137*n*	9.9229*n*	9.7744*n*	0.0729	9.1046*n*	. . . .	9.8062*n*	— 0.146	13.4470
14	9.6413*n*	9.9019*n*	9.7623*n*	0.0346	9.6096	. . . .	9.9294*n*	— 0.459	14.4469
16	9.6854	9.2065	9.6285*n*	9.6538*n*	9.9987	9.8380	9.8751*n*	— 0.686	
	9.8773*n*	9.1617*n*	9.9317*n*	9.6368	0.2183	. . . .	8.9031*n*	+ 0.017	16.4932
17	9.9059	9.2174*n*	8.2545*n*	9.7539*n*	9.8758*n*	9.7569	8.8451	+ 0.160	
	9.4523*n*	7.6207	0.0117*n*	9.5987*n*	0.3044	. . . .	9.8451	+ 0.771	17.4590
19	9.3800	9.4783*n*	9.5987	9.5268	0.0571*n*	9.9471	8.9031	+ 0.133	
	9.1970	9.8507*n*	9.8195*n*	0.0762*n*	9.7537	. . . .	8.0000*n*	+ 0.125	19.4560
22	9.2962	9.3515	9.6323*n*	9.2885	0.0745*n*	9.9260	8.6021*n*	— 0.095	
	9.8891*n*	9.6404*n*	9.8374*n*	9.8994*n*	0.0506*n*	. . . .	9.1461	— 0.086	22.4565
25	9.6930	9.5900*n*	9.6559	9.0869*n*	0.0633	9.8634	9.6128*n*	— 0.204	
	9.3835	9.6603*n*	9.8969*n*	0.0467	0.0481*n*	. . . .	0.2041*n*	— 1.184	25.4535
27	7.8268	8.4357*n*	8.6215	9.3676*n*	9.9974	0.0076	9.6021	+ 0.358	
	9.4239*n*	9.9243*n*	9.7505*n*	0.0467	9.2212	. . . .	9.9445*n*	— 0.439	27.4574
28	8.6004	9.2062	9.4369*n*	9.0331*n*	0.0415	9.9826	9.4150	+ 0.237	
	9.7876*n*	9.8291*n*	9.7743*n*	9.9873	9.8366	. . . .	9.6232*n*	— 0.115	28.4581
1876. Mar. 9	9.8553	9.6023*n*	9.7052	8.3958	0.0787*n*	9.8055	9.4472*n*	— 0.122	
	9.4377	9.5356*n*	9.9527*n*	9.9943*n*	0.1754	. . . .	8.7782	+ 0.236	9.4835
13	9.1242	9.3491	9.6912*n*	8.8319	0.1258*n*	0.9582	8.6021*n*	— 0.142	
	9.9143*n*	9.7555*n*	9.7999*n*	9.9076*n*	9.9861*n*	. . . .	8.9542*n*	— 0.290	13.4763
14	9.7380	9.1723	9.7059*n*	9.6230	0.0522*n*	9.8095	9.2788*n*	— 0.061	
	9.9156*n*	9.1171*n*	9.9486*n*	9.5671*n*	0.2400*n*	. . . .	9.7559	+ 0.302	14.5179
22	9.9401	9.5104*n*	9.4570	9.4862*n*	9.8666*n*	9.7434	8.0000	+ 0.183	
	8.5556	9.0854*n*	0.0134*n*	9.8771*n*	0.2833	. . . .	9.3010*n*	— 0.074	22.4994
23	9.6792	9.5833*n*	9.7442	9.4809	0.1200*n*	9.8883	8.3010*n*	+ 0.097	
	9.5130	9.7682*n*	9.8683*n*	0.0390*n*	9.9965	. . . .	9.3424*n*	— 0.024	23.4854
31	8.9866	9.2165*n*	9.4453	9.5881*n*	0.0422	0.0114	9.2788*n*	— 0.213	
	6.7064	9.9601*n*	9.7425*n*	0.0379	9.2445	. . . .	9.1761	+ 0.660	31.4535

Equations of Condition—Continued.

OBERON—Continued.

Date.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.	Greenwich M. T.
1876.								″	
Apr. 6	9.4664	9.4956*n*	9.6862	9.6206	0.0956*n*	9.9473	8.6990	+ 0.120	
	9.3851	9.8771*n*	9.8039*n*	0.0463*n*	9.7920	. . . .	8.4771	+ 0.217	6.4378
8	7.6897*n*	8.9812	9.2590*n*	8.9903	0.0438*n*	0.0209	8.9542*n*	— 0.214	
	9.7019*n*	9.9270*n*	9.7292*n*	9.9905*n*	9.6419*n*	. . . .	8.9031*n*	— 0.121	8.4293
15	8.1561	9.1562	9.4454*n*	8.7653*n*	0.0624	0.0054	9.2788*n*	— 0.206	
	9.7807*n*	9.8888*n*	9.7402*n*	9.9709	9.7622	. . . .	9.3010	+ 0.519	15.4454
1881.									
Mar. 2	9.0614	8.4884*n*	9.6222	9.3547*n*	0.0010*n*	0.0114	9.3617	+ 0.201	
	9.4118	0.0285*n*	8.9267*n*	7.9294*n*	7.3623	. . . .	8.3010*n*	— 0.160	2.5759
10	8.6936*n*	8.1963	9.3283*n*	9.5068*n*	0.0169	0.0366	8.4771*n*	— 0.049	
	9.5542*n*	0.0208*n*	8.9366*n*	7.9321	7.4525	. . . .	9.8633	+ 0.532	10.5605
11	9.1037*n*	8.6687	9.8272*n*	9.7561*n*	9.8279	9.9441	9.0792	— 0.019	
	9.8920*n*	9.8933*n*	9.0334*n*	7.9022	7.8999	. . . .	9.7404	+ 0.344	11.5518
Apr. 4	9.3782	8.8811*n*	9.8646	9.6081	9.8514	9.9108	9.4314*n*	— 0.068	
	9.7562	9.9504*n*	9.1410*n*	8.0720	7.9187	. . . .	9.0792	+ 0.030	4.4887
5	9.8695	8.4258*n*	9.4417	9.0338	0.0243	0.0264	9.3979*n*	— 0.141	
	9.0361	0.0351*n*	9.0274*n*	8.0419	7.1549*n*	. . . .	9.6128	+ 0.251	5.5245
7	9.0610*n*	8.7537	9.8239*n*	9.7540*n*	9.8195	9.9383	9.6990	+ 0.364	
	9.8931*n*	9.8844*n*	9.1197*n*	7.9852	7.9895	. . . .	8.6990	0.157	7.4941
26	8.3327*n*	7.9710	8.9647*n*	9.3440	0.0237*n*	0.0330	8.0000*n*	— 0.084	
	9.3995*n*	0.0221*n*	9.0492*n*	8.0572*n*	7.3964*n*	. . . .	9.2553	— 0.014	26.4569
27	9.0101*n*	8.7289	9.7537*n*	9.7310	9.8733*n*	9.9632	9.6902	+ 0.397	
	9.8410*n*	9.9186*n*	9.1192*n*	8.0250*n*	7.9405*n*	. . . .	9.3802*n*	— 0.451	27.4719
28	9.9964*n*	9.6315*n*	9.3282*n*	7.9526*n*	8.3077*n*	. . . .	9.2553	— 0.017	28.4711
May 1	9.3733	8.9162*n*	9.8509	9.5974	9.8489	9.9064	9.4914*n*	— 0.114	
	9.7375	9.9445*n*	9.1778*n*	8.1119	7.9492*n*	. . . .	0.0453	+ 1.017	1.4369
16	6.4653	6.0540*n*	7.1303	9.1340*n*	0.0236	0.0271	8.4771	+ 0.067	
	9.2031*n*	0.0211*n*	9.0524*n*	8.0670	7.1769	. . . .	8.7782*n*	— 0.242	16.4653
23	8.5010*n*	8.1553	9.1411*n*	9.4107	0.0071*n*	0.0206	9.3010	+ 0.126	
	9.4654*n*	0.0067*n*	9.0526*n*	8.0557*n*	7.4837*n*	. . . .	9.3802	+ 0.046	23.4834
24	9.0032*n*	8.7442	9.7603*n*	9.7268	9.8491*n*	9.9460	9.1139	+ 0.038	
	9.8439*n*	9.8987*n*	9.1261*n*	8.0225*n*	7.9606*n*	. . . .	8.8451	— 0.136	24.4528
25	8.7293*n*	8.8596	9.9523*n*	9.6546	9.4480*n*	9.7187	9.4314	+ 0.159	
	9.9929*n*	9.5821*n*	9.3522*n*	7.9390*n*	8.3383*n*	. . .	9.0792*n*	— 0.311	25.4756
27	9.6362	9.0972*n*	9.9662	9.5157	9.4989	9.6480	9.1139*n*	+ 0.086	
	9.8879	9.7288*n*	9.4199*n*	8.1579	8.3681*n*	. . . .	9.7782*n*	— 0.639	27.4724
28	9.3241	8.8768*n*	9.8134	9.5701	9.8677	9.9154	8.9542*n*	+ 0.094	
	9.6903	9.9494*n*	9.1510*n*	8.1001	7.8867*n*	. . . .	9.5185*n*	— 0.428	28.4778
30	8.7449*n*	8.4131	9.4081*n*	9.5455*n*	9.9809	0.0082	8.4771*n*	— 0.062	
	9.6039*n*	9.9873*n*	9.0552*n*	8.0416	7.6403	. . . .	8.8451	— 0.126	30.4637
1882.									
Feb. 24	9.2671*n*	8.0989*n*	9.8307*n*	9.7481*n*	9.8319	9.9431	9.5911	+ 0.237	
	9.8682*n*	9.9007*n*	8.4563	9.3305*n*	7.3170*n*	. . . .	9.0000*n*	— 0.284	24.5692

Equations of Condition—Continued.

OBERON—Continued.

Date.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.	Greenwich M. T.
1882.								″	
Feb. 25	9.4741*n*	8.1733*n*	0.0003*n*	9.6185*n*	9.4025	9.6766	8.6021	— 0.181	
	9.9999*n*	9.5550*n*	8.7068	7.2356*n*	7.7008*n*	. . . .	9.4771	+ 0.155	25.5783
Mar. 13	9.3166	7.8586	9.9218	9.6306*n*	9.7768*n*	9.8632	8.8451	+ 0.128	
	9.8606	9.9137*n*	8.1126	6.9994	6.9590*n*	. . . .	9.6812*n*	— 0.522	13.5310
14	9.0269	7.4751	9.6224	9.3719*n*	0.0002*n*	0.0115	8.8451	+ 0.043	
	9.4652	0.0285*n*	7.9198	6.9215	6.3697*n*	. . . .	9.3617	+ 0.108	14.5282
23	9.2405*n*	6.3909*n*	9.8322*n*	9.7492*n*	9.8284	9.9415	8.8451	— 0.081	
	9.8746*n*	9.8979*n*	6.7482	5.6201*n*	5.6116*n*	. . . .	9.6232	+ 0.231	23.5078
28	8.6508	6.7452*n*	9.2423	8.4685*n*	0.0379*n*	0.0380	9.5563*n*	— 0.416	
	8.6599	0.0431*n*	7.5253*n*	6.5430*n*	5.1831	. . . .	9.4150	+ 0.106	28.4846
29	8.9438*n*	7.0728	9.5388*n*	9.6108	9.9856*n*	0.0209	8.8451*n*	- 0.165	
	9.6530*n*	0.0011*n*	7.6303*n*	6.6063*n*	6.2718*n*	. . . .	9.5051	+ 0.130	29.5068
30	9.2907*n*	7.4831	9.8911*n*	9.7497	9.7421*n*	9.8942	9.2788	+ 0.064	
	9.9224*n*	9.8382*n*	7.8388*n*	6.6519*n*	6.7499*n*	. . . .	9.5911	+ 0.206	30.5006
Apr. 11	8.4501*n*	7.1039	9.0465*n*	9.3520	0.0290*n*	0.0384	9.5911*n*	-- 0.469	
	9.3671*n*	0.0302*n*	8.1147*n*	7.1224*n*	6.4678*n*	. . . .	9.3010	+ 0.021	11.5086
12	9.1646*n*	7.8285	9.7724*n*	9.7307	9.8773*n*	9.9657	8.4771	— 0.079	
	9.8302*n*	9.9288*n*	8.2059*n*	7.1125*n*	7.0259*n*	. . . .	9.3802	+ 0.048	12.5121
16	9.2834	8.0530*n*	9.8582	9.6075	9.8577	9.9155	8.3020*n*	+ 0.185	
	9.7745	9 9549*n*	8.3201*n*	7.2539	7.0920*n*	. . . .	9.4472	+ 0.208	16.4804
17	8.8398	7.6006*n*	9.4288	9.0456	0.0233	0.0256	9.1761	+ 0.260	
	9.1277	0.0352*n*	8.2241*n*	7.2385	6.3591*n*	. . . .	9.4150	+ 0.116	17.4918
18	8.7539*n*	7.5264	9.3545*n*	9.5043*n*	0.0091	0.0293	9.3424*n*	— 0.244	
	9.5340*n*	0.0154*n*	8.2338*n*	7.2285	6.7563	. . . .	9.2304	— 0.015	18.4696
24	8.5773	7.4306*n*	9.1688	7.6953*n*	0.0327*n*	0.0329	9.5441	+ 0.293	
	8.1692	0.0368*n*	8.2953*n*	7.3133*n*	5.5887	. . . .	8.3010	— 0.137	24.4638
25	9.6669*n*	9.9907*n*	8.3244*n*	7.2966*n*	6.9825*n*	. . . .	9.7324	+ 0.350	25.4728
May 1	7.7343	6.5486*n*	8.3298	9.0322*n*	0.0324	0.0346	9.6628*n*	— 0.415	
	9.0321*n*	0.0325*n*	8.3453*n*	7.3614	6.3521	. . . .	. . . .	— 0.168	1.4451
2	9.0701*n*	7.9694	9.6837*n*	9.6888*n*	9.9232	9.9861	9.3802	+ 0.143	
	9.7630*n*	9.9567*n*	8.3982*n*	7.3388	7.1550	. . . .	9.4472*n*	— 0.472	2.4783
1883.									
Mar. 8	9.3621*n*	8.7841*n*	9.8314*n*	9.7454*n*	9.8310	9.9415	9.3424	+ 0.208	
	9.8478*n*	9.8984*n*	9.1376	8.0125*n*	7.9976*n*	. . . .	9.8261	+ 0.528	8.5377
12	9.1017	8.8030	9.7981	9.5870*n*	9.9181*n*	9.9598	9.5051*n*	— 0.424	
	9.7413	9.9835*n*	9.1056	8.0650	7.8109*n*	. . . .	9.7634	+ 0.658	12.5472
13	8.5731	8.1495	9.1706	8.3343*n*	0.0411*n*	0.0412	9.2041	— 0.092	
	8.7977	0.0428*n*	9.0208	8.0386	6.5662*n*	. . . .	9.3802*n*	— 0.258	13.5510
14	9.0081*n*	8.4921*n*	9.5387*n*	9.6001	9.9895*n*	0.0227	8.6021	— 0.279	
	9.6117*n*	0.0032*n*	9.0358	8.0141	7.6658	. . . .	9.4914	+ 0.212	14.5260
20	7.5942	7.1175	8.1741	8.9988*n*	0.0430	0.0448	8.7782	+ 0.254	
	8.8418*n*	0.0415*n*	8.9915	8.0079*n*	6.9568*n*	. . . .	9.3010	+ 0.158	20.5446

Equations of Condition—Continued.

OBERON—Continued.

Date.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.	Greenwich M. T.
1883.								″	
Mar. 21	9.1583*n*	8.5942*n*	9.6745*n*	9.6802*n*	9.9451	0.0008	9.1761	+ 0.217	
	9.7219*n*	9.9741*n*	9.0315	7.9811*n*	7.7656*n*	. . . .	9.7160	+ 0.401	21.5262
Apr. 3	8.8957*n*	8.3267*n*	9.4435*n*	9.5424*n*	0.0048	0.0290	8.3010	+ 0.147	
	9.5456*n*	0.0132*n*	8.9527	7.9422*n*	7.5167*n*	. . . .	8.4771*n*	— 0.122	3.5874
4	9.3544*n*	8.6933*n*	9.8424*n*	9.7461*n*	9.8144	9.9319	9.1761*n*	— 0.168	
	9.8618*n*	9.8876*n*	9.0456	7.9104*n*	7.9159*n*	. . . .	8.4771	— 0.119	4.5141
10	9.0319*n*	8.4217*n*	9.5711*n*	9.6200	9.9775*n*	0.0155	9.4771	— 0.017	
	9.6442*n*	9.9948*n*	8.9380	7.9103	7.5956	. . . .	9.6628	+ 0.354	10.5162
14	9.1700	8.8563	9.9440	9.6250	9.7030	9.8138	9.4771*n*	— 0.086	
	9.9119	9.8642*n*	9.1239	7.9684*n*	8.0123	. . . .	9.6990*n*	— 0.361	14.4901
21	9.1848	8.7794	9.9019	9.6320*n*	9.7891*n*	9.8723	9.1139	+ 0.105	
	9.8585	9.9134*n*	9.0385	7.9329	7.8755*n*	. . . .	9.4771	+ 0.412	21.4705
24	9.2701*n*	8.5732*n*	9.7847*n*	9.7284	9.8654*n*	9.9570	9.5185	+ 0.018	
	9.8170*n*	9.9206*n*	8.9424	7.8440	7.7696	. . . .	9.5911*n*	— 0.528	24.5122
25	9.5454*n*	8.7021*n*	9.9723*n*	9.6620	9.4844*n*	9.7357	9.8976	+ 0.513	
	9.9645*n*	9.6377*n*	9.1605	7.7819	8.1405	. . . .	9.6232	+ 0.257	25.4941
30	8.8638*n*	8.2117*n*	9.4205*n*	9.5276*n*	0.0003	0.0235	8.9031	+ 0.208	
	9.5345*n*	0.0084*n*	8.8551	7.8459*n*	7.4093*n*	. . . .	9.0792*n*	— 0.212	30.4962
May 2	9.6031*n*	8.6661*n*	9.9941*n*	9.5777*n*	9.3451	9.6294	9.6902	+ 0.327	
	9.9767*n*	9.4905*n*	9.2425	7.7208*n*	8.2417*n*	. . . .	9.9494	+ 0.725	2.4830
6	8.5207	7.9182	9.1154	7.5176*n*	0.0315*n*	0.0315	9.1461	— 0.110	
	8.5268	0.0337*n*	8.8291	7.8471	6.0433*n*	. . . .	9.3979*n*	— 0.277	6.4422
7	9.0454*n*	8.3587*n*	9.5909*n*	9.6293	9.9618*n*	0.0040	8.8451*n*	— 0.382	
	9.6625*n*	9.9823*n*	8.8533	7.8203	7.5321	. . . .	9.4914*n*	— 0.420	7.4950
8	9.4133*n*	8.6310*n*	9.8994*n*	9.7322	9.6995*n*	9.8642	9.6232	+ 0.129	
	9.9101*n*	9.8055*n*	8.9913	7.7827	7.9152	. . . .	8.9031*n*	— 0.238	8.4807
25	9.1499	8.6132	9.8112	9.5851	9.8784	9.9270	9.3424*n*	+ 0.009	
	9.7465	9.9571*n*	8.8972	7.8459*n*	7.6339	. . . .	9.3802*n*	— 0.162	25.4918
27	8.8819*n*	8.1909*n*	9.4397*n*	9.5357*n*	9.9863	0.0118	9.5051	+ 0.440	
	9.5480*n*	9.9958*n*	8.8104	7.7983*n*	7.3850*n*	. . . .	9.3617*n*	— 0.324	27.4604
1884.									
Mar. 15	9.0645*n*	9.2948	9.9603	9.5724	9.4945	9.6790	8.3010*n*	+ 0.122	
	9.9888	9.6850*n*	9.6589	8.3573*n*	8.6204	. . . .	8.8451*n*	+ 0.154	15.5679
22	8.4518*n*	9.2588	9.9535	9.6163*n*	9.5958*n*	9.7509	9.6021*n*	— 0.387	
	9.9685	9.7683*n*	9.5737	8.3417	8.5093*n*	. . . .	9.1139*n*	+ 0.056	22.5083
24	8.5125	8.3546	9.1134	8.3068*n*	0.0416*n*	0.0416	8.0000*n*	— 0.266	
	8.9086	0.0379*n*	9.2789	8.2968	6.7843*n*	. . . .	9.8388	+ 0.687	24.5291
29	8.6243	9.2039	9.9267	9.6487	9.7109	9.8289	9.1139*n*	+ 0.065	
	9.9278	9.8499*n*	9.4820	8.3226*n*	8.3735	. . . .	9.2553	+ 0.350	29.5170
30	8.9638	8.9377	9.6925	9.5115	9.9701	9.9943	9.2304	+ 0.406	
	9.6527	0.0032*n*	9.3145	8.2993*n*	7.9092	. . . .	9.2304	+ 0.241	30.4980
Apr. 19	9.0015	8.9813	9.7665	9.5777*n*	9.9269*n*	9.9656	9.6812	+ 0.363	
	9.7319	9.9797*n*	9.3013	8.2658	7.9893*n*	. . . .	9.1461*n*	— 0.056	19.4787
20	8.5258	8.3214	9.1264	8.3308*n*	0.0372*n*	0.0372	8.8451	— 0.182	
	8.8879	0.0350*n*	9.2277	8.2456	6.7571*n*	. . . .	8.9542	+ 0.084	20.4515

Equations of Condition—Continued.

OBERON—Continued.

Date.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.	Greenwich M. T.
1884.								″	
Apr. 26	8. 9680	8. 8684	9. 6715	9. 4823	9. 9722	9. 9933	9. 8808*n*	— 0. 526	
	9. 6195	0. 0036*n*	9. 2592	8. 2481*n*	7. 8273	. . . .	9. 1761*n*	— 0. 088	26. 4760
27	6. 7566	6. 4888	7. 3125	8. 9984*n*	0. 0368	0. 0386	9. 4624*n*	— 0. 101	
	8. 7273*n*	0. 0318*n*	9. 2118	8. 2281*n*	7. 1888*n*	. . . .	9. 0000	+ 0. 070	27. 4472
28	9. 2265*n*	8. 8433*n*	9. 6899*n*	9. 6838*n*	9. 9275	9. 9881	9. 7634*n*	— 0. 527	
	9. 7127*n*	9. 9572*n*	9. 2608	8. 2039*n*	8. 0116*n*	. . . .	9. 2788	+ 0. 083	28. 4756
29	9. 5961*n*	9. 0408*n*	9. 9270*n*	9. 7150*n*	9. 6143	9. 8172	9. 6990*n*	— 0. 613	
	9. 9085*n*	9. 7332*n*	9. 4296	8. 1565*n*	8. 3818*n*	. . . .	9. 6628	+ 0. 321	29. 4701
May 9	9. 0118	9. 0189	9. 8247	9. 6168	9. 8687	9. 9264	9. 8513*n*	— 0. 487	
	9. 7969	9. 9461*n*	9. 3024	8. 2393*n*	8. 0676	. . . .	9. 6628*n*	— 0. 352	9. 4464
11	8. 8932*n*	8. 5597*n*	9. 4106*n*	9. 5109*n*	9. 9997	0. 0213	9. 1761	+ 0. 277	
	9. 4819*n*	0. 0039*n*	9. 2045	8. 1971*n*	7. 7448*n*	. . . .	9. 2304*n*	— 0. 244	11. 4431
12	9. 4352*n*	8. 9639*n*	9. 8420*n*	9. 7371*n*	9. 7870	9. 9123	8. 3010	— 0. 015	
	9. 8423*n*	9. 8615*n*	9. 3123	8. 1659*n*	8. 1930*n*	. . . .	8. 4771*n*	— 0. 161	12. 4664
15	8. 6297	9. 1573	9. 9404	9. 6147*n*	9. 6356*n*	9. 7708	9. 6628	+ 0. 472	
	9. 9391	9. 8031*n*	9. 4489	8. 2526	8. 3658*n*	. . . .	8. 6990*n*	+ 0. 113	15. 4889
16	9. 0051	8. 9233	9. 7422	9. 5518*n*	9. 9296*n*	9. 9640	9. 6902	+ 0. 367	
	9. 6999	9. 9787*n*	9. 2544	8. 2250	7. 9191*n*	. . . .	9. 3222*n*	— 0. 135	16. 4638
17	8. 2726	8. 0159	8. 8592	8. 5406	0. 0309*n*	0. 0311	9. 8325	+ 0. 420	
	8. 1201	0. 0275*n*	9. 1859	8. 2039	6. 6072	. . . .	9. 5441*n*	— 0. 369	17. 5024
18	9. 1039*n*	8. 7311*n*	9. 5933*n*	9. 6248	9. 9579*n*	0. 0000	9. 7853	+ 0. 296	
	9. 6320*n*	9. 9755*n*	9. 2158	8. 1828	7. 8946	. . . .	8. 7782	— 0. 032	18. 4672
25	9. 2430*n*	8. 8338*n*	9. 7055*n*	9. 6872*n*	9. 9048	9. 9720	9. 7076*n*	— 0. 468	
	9. 7268*n*	9. 9397*n*	9. 2359	8. 1703*n*	8. 0065*n*	. . . .	9. 5798*n*	— 0. 490	25. 4678

TITANIA.

Date.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.	Greenwich M. T.
1875.									
Apr. 20	9. 2956	9. 4449*n*	9. 5668	9. 5472	0. 0574*n*	9. 9730	8. 7782*n*	+ 0. 025	
	9. 0554	9. 8831*n*	9. 8208*n*	0. 0920*n*	9. 6753	. . . .	9. 4472*n*	— 0. 039	20. 4429
21	7. 4318*n*	8. 8185	9. 0137*n*	9. 2271	0. 0215*n*	0. 0188	8. 0000	— 0. 182	
	9. 6464*n*	9. 9104*n*	9. 7742*n*	0. 0473*n*	9. 6154*n*	. . . .	9. 4472*n*	— 0. 130	21. 4406
23	9. 9162	9. 3165*n*	8. 6007	9. 7432	9. 3391	9. 7707	8. 3010*n*	+ 0. 173	
	9. 3481*n*	8. 0626*n*	0. 0206*n*	9. 6998	0. 3088*n*	. . . .	9. 7076	+ 0. 242	23. 4607
25	8. 1088	8. 6785*n*	8. 8478	9. 4089*n*	0. 0096	0. 0189	. . . . .	— 0. 051	
	9. 3879*n*	9. 9349*n*	9. 7709*n*	0. 0692	9. 1190	. . . .	8. 8451*n*	+ 0. 186	25. 4577
29	8. 9406	9. 2420*n*	9. 3877	9. 5289	0. 0254*n*	9. 9999	9. 3617	+ 0. 225	
	8. 5749*n*	9. 9230*n*	9. 7862*n*	0. 0826*n*	9. 2492	. . . .	9. 7559*n*	— 0. 324	29. 4538
May 2	9. 8793	9. 5380*n*	9. 4486	9. 4925	9. 8899	9. 7918	8. 6990	+ 0. 343	
	8. 7216	9. 1843*n*	9. 9917*n*	9. 9338	0. 2465*n*	. . . .	9. 9294	+ 0. 718	2. 4598
4	7. 5950*n*	8. 6721	8. 8640*n*	9. 2532*n*	0. 0130	0. 0152	9. 2041	+ 0. 043	
	9. 6073*n*	9. 9129*n*	9. 7663*n*	0. 0457	9. 5549	. . . .	9. 0000*n*	+ 0. 116	4. 4415
6	9. 9086	9. 2181*n*	8. 3131*n*	9. 7616*n*	8. 8525*n*	9. 7638	9. 5051*n*	— 0. 182	
	9. 4608*n*	7. 6787	0. 0159*n*	9. 6006*n*	0. 3087	. . . .	9. 7160*n*	— 0. 689	6. 4532

Equations of Condition—Continued.

TITANIA—Continued.

Date.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.	Greenwich M. T.
						●		″	
1875. May 12	9.0268	9.2887*n*	9.4336	9.5371*n*	0.0262	9.9894	9.4914	+ 0.381	
	6.5791*n*	9.9127*n*	9.7844*n*	0.0772	9.3706*n*	. . . .	0.2279*n*	— 1.424	12.4456
13	8.2714	9.1226	9.3362*n*	9.0916*n*	0.0332	9.9984	8.0000*n*	— 0.178	
	9.7481*n*	9.8627*n*	9.7744*n*	0.0127	9.7750	. . . .	9.6232*n*	— 0.266	13.4414
14	9.6276	9.2721	9.6483*n*	9.6009*n*	0.0305	9.8574	9.9445	+ 0.747	
	9.8922*n*	9.2973*n*	9.9144*n*	9.7187	0.1921	. . . .	9.2304	+ 0.038	14.4420
16	9.3590	9.4694*n*	9.5901	9.5310	0.0556*n*	9.9520	8.7782*n*	+ 0.047	
	9.1679	9.8577*n*	9.8178*n*	0.0783*n*	9.7342	. . . .	9.5315*n*	— 0.109	16.4785
17	7.5695*n*	8.4704	8.6634*n*	9.2752	0.0055*n*	0.0112	8.8451	— 0.093	
	9.5672*n*	9.9147*n*	9.7575*n*	0.0420*n*	9.4900*n*	. . . .	9.6532*n*	— 0.277	17.4465
22	8.9497	9.2951	9.5406*n*	9.0879*n*	0.0604	9.9656	9.9590	+ 0.714	
	9.8409*n*	9.7714*n*	9.7977*n*	9.9628	9.9326	. . . .	0.0645*n*	— 1.089	22.4607
25	9.0908	9.3209*n*	9.4669	9.5427	0.0268*n*	9.9794	9.2788*n*	— 0.160	
	8.4767	9.9033*n*	9.7808*n*	0.0698*n*	9.4471	. . . .	8.9542	+ 0.337	25.4493
27	9.5956	9.2876	9.6540*n*	9.5628	0.0394*n*	9.8580	9.5682*n*	— 0.570	
	9.8933*n*	9.3430*n*	9.9002*n*	9.7394*n*	0.1736*n*	. . . .	9.7709	+ 0.360	27.4616
28	9.8945	9.4695*n*	9.3018	9.5951	9.7655	9.7620	9.4914*n*	— 0.048	
	8.5272*n*	8.9452*n*	9.9950*n*	9.8550	0.2654*n*	. . . .	9.9638	+ 0.738	28.4636
1876. Mar. 9	9.3398	9.3662	9.7372*n*	9.1165	0.1369*n*	9.9237	9.2041*n*	— 0.449	
	9.9411*n*	9.6559*n*	9.8345*n*	9.8607*n*	0.0635*n*	. . . .	9.7634	+ 0.462	9.4689
13	8.9156	9.3140	9.6408*n*	8.6153*n*	0.1123	9.9805	9.3802	+ 0.026	
	9.8852*n*	9.8142*n*	9.7777*n*	9.9336	9.9226	. . . .	9.7404	+ 0.638	13.4916
14	9.8507	8.7328	9.5870*n*	9.7228*n*	9.9077	9.7629	9.1461	+ 0.131	
	9.8409*n*	8.4690*n*	9.9952*n*	9.1060*n*	0.2953	. . . .	9.3617	+ 0.018	14.5082
21	7.6516*n*	8.2663	8.5294*n*	9.2692*n*	0.0293	0.0349	9.1139	+ 0.028	
	9.5414*n*	9.9648*n*	9.7222*n*	0.0112	9.3892	. . . .	9.4150*n*	+ 0.018	21.4515
22	9.3247	9.3646	9.7263*n*	9.1167*n*	0.1306	9.9251	9.0000*n*	— 0.306	
	9.9348*n*	9.6606*n*	9.8317*n*	9.8663	0.0573	. . . .	9.3222	+ 0.191	22.5105
23	9.9383	9.0553*n*	9.0807*n*	9.7456*n*	9.2420	9.7254	9.1761*n*	— 0.028	
	9.6102*n*	8.2247	0.0311*n*	9.4161*n*	0.3289	. . . .	9.1461	— 0.057	23.4722
31	9.5285	9.3369	9.7404*n*	9.3912*n*	0.1171	9.8761	. . . .	— 0.173	
	9.9409*n*	9.4895*n*	9.8778*n*	9.7830	0.1405	. . . .	9.3424	+ 0.126	31.4362
Apr. 6	9.7133	9.5908*n*	9.7367	9.3936*n*	0.1120	9.8689	8.0000*n*	+ 0.300	
	9.5056	9.7262*n*	9.8821*n*	0.0323	0.0329*n*	. . . .	9.5441*n*	— 0.207	6.4496
8	8.5981	9.2417	9.5429*n*	8.6547*n*	0.0821	9.9944	8.3010	— 0.179	
	9.8310*n*	9.8570*n*	9.7556*n*	9.9566	9.8401	. . . .	9.4624	+ 0.425	8.4431
15	9.5216	9.5202*n*	9.7017	9.5941*n*	0.0996	9.9298	9.8451*n*	— 0.470	
	9.4273	9.8498*n*	9.8158*n*	0.0431	9.8464*n*	. . . .	9.5682	+ 0.610	15.4599
1881. Mar. 2	9.0830*n*	8.5806	9.7733*n*	9.7406	9.8808*n*	9.9714	9.6812	+ 0.156	
	9.8488*n*	9.9297*n*	8.9658*n*	7.8701*n*	7.7891*n*	. . . .	9.3617*n*	— 0.411	2.5617
7	9.0810*n*	8.7386	9.9714*n*	9.6890*n*	9.5111	9.7622	9.3424	+ 0.046	
	0.0043*n*	9.6498*n*	9.1982*n*	7.8256	8.1770	. . . .	9.9494	+ 0.673	7.5508
10	8.1080*n*	7.6001	8.7221*n*	9.2689	0.0381*n*	0.0443	8.6990	— 0.216	
	9.3143*n*	0.0369*n*	8.9288*n*	7.9403*n*	7.1840*n*	. . . .	9.0000	— 0.010	10.5480

Equations of Condition—Continued.

TITANIA—Continued.

Date.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.	Greenwich M. T.
1881.								″	
Mar. 11	9.1243*n*	8.7107	9.8810*n*	9.7586	9.7535*n*	9.9044	9.4314	− 0.046	
	9.9335*n*	9.8413*n*	9.0726*n*	7.8898*n*	7.9811*n*	. . . .	9.5051	+ 0.118	11.5404
26	9.5461	8.9875*n*	9.9648	9.5968*n*	9.6475*n*	9.7684	9.6021*n*	− 0.307	
	9.8870	9.8361*n*	9.2604*n*	8.0777*n*	8.1688	. . . .	9.4914*n*	− 0.246	26.4870
27	8.9391	8.4669*n*	9.5063	9.1640*n*	0.0194*n*	0.0233	9.1461	− 0.029	
	9.1875	0.0345*n*	9.0079*n*	8.0197*n*	7.2552	. . . .	9.3802	+ 0.189	27.4835
Apr. 4	9.4258	8.9191*n*	9.8958	9.6196*n*	9.8066*n*	9.8807	8.3010	+ 0.038	
	9.7974	9.9263*n*	9.1708*n*	8.0782*n*	7.9895	. . . .	9.0414*n*	− 0.075	4.4772
5	8.2884	7.8687*n*	8.8888	8.8461	0.0387*n*	0.0396	8.4771	− 0.205	
	8.9360*n*	0.0380*n*	9.0137*n*	8.0311*n*	6.7853*n*	. . . .	9.4624*n*	− 0.382	5.5035
22	9.0610	8.6361*n*	9.6094	9.3362*n*	9.9926*n*	0.0026	8.6990	− 0.086	
	9.3751	0.0184*n*	9.0761*n*	8.0794*n*	7.5032	. . . .	8.3010	− 0.018	22.4775
23	8.8446*n*	8.5103	9.5204*n*	9.6141	9.9768*n*	0.0140	9.5798	+ 0.078	
	9.6783*n*	9.9891*n*	9.0656*n*	8.0397*n*	7.7156*n*	. . . .	9.4150*n*	− 0.413	23.4504
27	8.2288*n*	7.8619	8.8554*n*	9.3076*n*	0.0254	0.0332	8.8451	+ 0.046	
	9.3643*n*	0.0234*n*	9.0492*n*	8.0589	7.3571	. . . .	8.3010	− 0.096	27.4618
28	9.0315*n*	8.8295	9.8765*n*	9.7488*n*	9.7249	9.8855	9.3617*n*	− 0.371	
	9.9342*n*	9.8145*n*	9.1973*n*	8.0007	8.1143	. . . .	9.7482	+ 0.356	28.4572
30	9.4838	8.9993*n*	9.9176	9.6125*n*	9.7392*n*	9.8320	9.1461	+ 0.189	
	9.8254	9.8841*n*	9.2517*n*	8.1268*n*	8.1115	. . . .	9.4472	+ 0.322	30.4790
May 1	8.7395	8.3466*n*	9.3203	8.7005*n*	0.0240*n*	0.0243	9.0414	− 0.086	
	8.6149	0.0294*n*	9.0596*n*	8.0767*n*	6.9103	. . . .	8.8451	− 0.001	1.4485
20	8.9155*n*	8.8640	9.9286*n*	9.7032	9.5623*n*	9.7901	9.6232	+ 0.147	
	9.9741*n*	9.6856*n*	9.2863*n*	7.9717*n*	8.2515*n*	. . . .	8.6990	− 0.166	20.4610
23	7.1792*n*	6.8129	7.7971*n*	9.1516*n*	0.0203	0.0243	8.9031	+ 0.067	
	9.2189*n*	0.0178*n*	9.0485*n*	8.0626	7.1959	. . . .	9.4771*n*	− 0.405	23.4940
24	9.0215*n*	8.8006	9.8288*n*	9.7404*n*	9.7745	9.9074	9.3010*n*	− 0.328	
	9.8958*n*	9.8471*n*	9.1646*n*	8.0100	8.0523	. . . .	9.4472*n*	− 0.473	24.4633
27	8.8800	8.4824*n*	9.4475	9.0647*n*	0.0039*n*	0.0066	8.9542*n*	− 0.260	
	9.0615	0.0157*n*	9.0607*n*	8.0743*n*	7.2335	. . . .	9.2304	+ 0.113	27.4620
28	8.9441*n*	8.6495	9.6580*n*	9.6823	9.9129*n*	9.9768	9.5185	+ 0.028	
	9.7684*n*	9.9413*n*	9.0891*n*	8.0292*n*	7.8471*n*	. . . .	9.0000*n*	− 0.267	28.4665
1882.									
Feb. 25	8.9792	7.8865	9.5796	9.3158	0.0072	0.0176	9.2788*n*	− 0.145	
	9.4123	0.0323*n*	8.3607	7.3664*n*	6.7511	. . . .	9.6628	+ 0.444	25.5672
Mar. 14	9.2378	7.7047	9.8377	9.5995	9.8902	9.9393	9.3802	+ 0.332	
	9.7543	9.9742*n*	7.9808	6.9281*n*	6.7210	. . . .	9.6435	+ 0.482	14.5386
23	9.1088	6.5466	9.7012	9.4701	9.9743	9.9940	9.4150*n*	− 0.196	
	9.5725	0.0160*n*	7.4592	5.4491*n*	5.0202	. . . .	9.5051	+ 0.323	23.5203
25	9.3600*n*	6.9547	9.9552*n*	9.7127*n*	9.5920	9.8065	8.7782*n*	− 0.250	
	9.9722*n*	9.7265*n*	7.3749*n*	6.0757	6.3357	. . . .	9.7782	+ 0.412	25.4947
28	7.8189	−∞	8.4124	9.0169	0.0414*n*	0.0433	9.3010	− 0.048	
	8.9951*n*	0.0415*n*	7.5611*n*	6.5774*n*	5.5414*n*	. . . .	9.4771	+ 0.220	28.4943
29	9.2606*n*	7.4284	9.8597*n*	9.7518	9.7918*n*	9.9215	9.5051	− 0.010	
	9.8973*n*	9.8727*n*	7.7759*n*	6.6234*n*	6.6618*n*	. . . .	9.0414*n*	− 0.285	29.5165

Equations of Condition—Continued.

TITANIA—Continued.

Date.	Log P	Log Q	Log R	Log T	Log U.	Log V	Log *n*	Residual.	Greenwich M. T.
1883.								″	
May 16	9.6141*n*	9.9895*n*	8.8291	7.8065*n*	7.4636*n*	. . . .	9.1139	+ 0.036	16.4880
24	8.7360	8.1114	9.3384	8.9156	0.0175	0.0187	9.0792*n*	— 0.002	
	9.0785	0.0250*n*	8.8056	7.8215*n*	6.8260	. . . .	9.2304	+ 0.194	24.4638
25	9.1974*n*	8.4678*n*	9.7281*n*	9.6995*n*	9.8895	9.9644	9.4472	+ 0.268	
	9.7711*n*	9.9329*n*	8.8593	7.7836*n*	7.6498*n*	. . . .	9.4472	+ 0.147	25.4814
1884.									
Mar. 15	8.5185	8.3819	9.1211	8.3745	0.0416	0.0417	9.4624	+ 0.401	
	8.9367	0.0375*n*	9.2961	8.3139*n*	6.8460	. . . .	9.3222	+ 0.248	15.5568
24	8.2616*n*	8.0437*n*	8.8136*n*	9.2028*n*	0.0394	0.0440	9.0414*n*	— 0.024	
	9.0424*n*	0.0333*n*	9.2767	8.2898*n*	7.4715*n*	. . . .	9.6335	+ 0.422	24.5187
27	8.6644	9.2012	9.9222	9.6515*n*	9.7235*n*	9.8375	9.3979*n*	— 0.129	
	9.9227	9.8578*n*	9.4772	8.3251	8.3629*n*	. . . .	9.4314	+ 0.491	27.5146
28	8.7045	8.5667	9.3290	8.9821*n*	0.0343*n*	0.0359	9.0414*n*	— 0.184	
	9.2123	0.0354*n*	9.2766	8.2921	7.3309*n*	. . . .	9.5051*n*	— 0.270	28.5118
29	9.2845*n*	8.9276*n*	9.7243*n*	9.7052	9.9165*n*	9.9854	9.2553	— 0.099	
	9.7376*n*	9.9504*n*	9.3255	8.2578	8.1006	. . . .	8.7782*n*	— 0.162	29.5056
Apr. 3	9.6528*n*	9.0929*n*	9.9417*n*	9.7059*n*	9.5708	9.7946	9.6812	+ 0.316	
	9.9150*n*	9.6949*n*	9.5057	8.1941*n*	8.4701*n*	. . . .	8.6021*n*	— 0.182	3.5173
11	9.2247*n*	8.8650*n*	9.6836*n*	9.6824*n*	9.9364	9.9946	9.0414	+ 0.109	
	9.7049*n*	9.9637*n*	9.2886	8.2349*n*	8.0314*n*	. . . .	0.0000	+ 0.905	11.4964
19	8.2480	8.0244	8.8328	8.5915*n*	0.0396	0.0399	9.4914*n*	— 0.207	
	8.0988	0.0352*n*	9.2269	8.2448*n*	6.7095*n*	. . . .	9.5682	+ 0.386	19.4679
20	9.3951*n*	8.9664*n*	9.8114*n*	9.7373*n*	9.8387	9.9431	8.7782*n*	— 0.113	
	9.8154*n*	9.8981*n*	9.3219	8.2057*n*	8.1719*n*	. . . .	9.6128	+ 0.286	20.4616
27	9.0066	8.9683	9.7661	9.5759	9.9240	9.9629	8.6990*n*	+ 0.090	
	9.7299	9.9777*n*	9.2876	8.2518*n*	7.9766	. . . .	8.3010*n*	+ 0.121	27.4573
28	8.6559*n*	8.3607*n*	9.1925*n*	9.3816*n*	0.0228	0.0338	8.9542	+ 0.160	
	9.3136*n*	0.0208*n*	9.2150	8.2205*n*	7.6085*n*	. . . .	9.6990*n*	— 0.533	28.4652
29	9.5567*n*	9.0303*n*	9.9091*n*	9.7294*n*	9.6681	9.8483	9.3617*n*	— 0.354	
	9.8955*n*	9.7753*n*	9.3986	8.1657*n*	8.3346*n*	. . . .	9.3979	+ 0.104	29.4843
May 1	8.9459	9.1010	9.8886	9.6438*n*	9.7862*n*	9.8745	9.3424*n*	— 0.109	
	9.8735	9.8989*n*	9.3681	8.2578	8.2110*n*	. . . .	8.0000*n*	+ 0.180	1.4728
11	8.4570*n*	8.1589*n*	9.0065*n*	9.2850	0.0252*n*	0.0323	9.4771	+ 0.132	
	9.1911*n*	0.0217*n*	9.1935	8.2037	7.4871	. . . .	8.3010*n*	— 0.046	11.4554
12	9.5034*n*	8.9960*n*	9.8829*n*	9.7343	9.7172*n*	9.8740	9.7404	+ 0.237	
	9.8754*n*	9.8117*n*	9.3501	8.1556	8.2659	. . . .	9.0414*n*	— 0.252	12.4546
15	8.5725	8.3412	9.1767	8.5625	0.0282	0.0284	9.4624*n*	— 0.179	
	8.9547	0.0277*n*	9.1912	8.2088*n*	6.8982	. . . .	8.6021*n*	— 0.008	15.4774
16	9.2979*n*	8.8764*n*	9.7472*n*	9.7086*n*	9.8824	9.9621	9.0000*n*	— 0.126	
	9.7623*n*	9.9258*n*	9.2563	8.1740*n*	8.0585*n*	. . . .	9.1139*n*	— 0.242	16.4513
20	9.0240*n*	8.6657*n*	9.5357*n*	9.5824	9.9756*n*	0.0082	9.2553	— 0.049	
	9.5757*n*	9.9870*n*	9.2053	8.1842	7.8325	. . . .	9.6902*n*	— 0.563	20.4785
25	9.4674*n*	8.9708*n*	9.8620*n*	9.7324*n*	9.7436	9.8865	— ∞	— 0.088	
	9.8584*n*	9.8298*n*	9.3208	8.1480*n*	8.2224*n*	. . . .	9.2304	+ 0.032	25.4574
28	8.6952	8.4731	9.3129	8.9419*n*	0.0180*n*	0.0195	9.5188	+ 0.258	
	9.1620	0.0209*n*	9.1847	8.2004	7.2199*n*	. . . .	9.9138*n*	— 0.779	28.4597

In forming the normal equations, double weight was given to the equations depending on the distances. The equations of condition were divided into three groups, those of 1875 and 1876; 1881 and 1882; and those of 1883 and 1884. This division gives the following sets of normals:

NORMAL EQUATIONS FOR OBERON.

1875–'76.

$$
\begin{array}{rrrrrrrl}
+15.5694\,\Delta N & -\ 0.3805\,\Delta J & +\ 6.5341\,\Delta u & -\ 3.3540\,\xi & -\ 7.6461\,\eta & +11.8236\,\Delta a & -\ 1.9518'' & =0 \\
-\ 0.3805\,\Delta N & +12.5214\,\Delta J & +\ 4.6122\,\Delta u & +\ 0.8003\,\xi & +\ 1.3338\,\eta & -\ 3.4942\,\Delta a & +\ 3.7927 & =0 \\
+\ 6.5341\,\Delta N & +\ 4.6122\,\Delta J & +21.2311\,\Delta u & +\ 4.3236\,\xi & -13.1719\,\eta & +\ 1.6600\,\Delta a & +\ 1.7893 & =0 \\
-\ 3.3540\,\Delta N & +\ 0.8003\,\Delta J & +\ 4.3236\,\Delta u & +28.7414\,\xi & -14.5323\,\eta & -\ 1.7170\,\Delta a & -\ 2.8632 & =0 \\
-\ 7.6461\,\Delta N & +\ 1.3338\,\Delta J & -13.1719\,\Delta u & -14.5323\,\xi & +93.9490\,\eta & -\ 8.3402\,\Delta a & -\ 2.2453 & =0 \\
+11.8236\,\Delta N & -\ 3.4942\,\Delta J & +\ 1.6600\,\Delta u & -\ 1.7170\,\xi & -\ 8.3402\,\eta & +35.6588\,\Delta a & -\ 1.0906 & =0 \\
 & & & & & & nn & =10.9299
\end{array}
$$

1881–'82.

$$
\begin{array}{rrrrrrrl}
+12.8510\,\Delta N & +\ 5.3006\,\Delta J & +\ 5.6274\,\Delta u & +\ 1.1699\,\xi & +\ 0.6121\,\eta & -\ 0.1899\,\Delta a & -\ 3.0890 & =0 \\
+\ 5.3006\,\Delta N & +28.1539\,\Delta J & +\ 0.9829\,\Delta u & -\ 0.2423\,\xi & -\ 0.4368\,\eta & -\ 0.0295\,\Delta a & -\ 4.6598 & =0 \\
+\ 5.6274\,\Delta N & +\ 0.9829\,\Delta J & +20.1218\,\Delta u & +\ 2.6443\,\xi & +\ 1.4368\,\eta & -\ 4.5731\,\Delta a & -\ 4.2369 & =0 \\
+\ 1.1699\,\Delta N & -\ 0.2423\,\Delta J & +\ 2.6443\,\Delta u & +\ 9.6136\,\xi & -\ 7.6306\,\eta & +\ 0.4172\,\Delta a & -\ 1.0131 & =0 \\
+\ 0.6121\,\Delta N & -\ 0.4368\,\Delta J & +\ 1.4368\,\Delta u & -\ 7.6306\,\xi & +46.4699\,\eta & +\ 3.3570\,\Delta a & -\ 2.2893 & =0 \\
\ \ 0.1899\,\Delta N & -\ 0.0295\,\Delta J & \ \ 4.5731\,\Delta u & +\ 0.4172\,\xi & +\ 3.3570\,\eta & +55.8684\,\Delta a & +\ 1.2612 & =0 \\
 & & & & & & nn & =\ 8.2573
\end{array}
$$

1883–'84.

$$
\begin{array}{rrrrrrrl}
+\ 4.2186\,\Delta N & +\ 0.5089\,\Delta J & +\ 1.8023\,\Delta u & +\ 0.5470\,\xi & -\ 0.7688\,\eta & -\ 1.8674\,\Delta a & -\ 1.8407 & =0 \\
+\ 0.5089\,\Delta N & +\ 8.5823\,\Delta J & -\ 0.5360\,\Delta u & +\ 0.2354\,\xi & -\ 0.2414\,\eta & +\ 0.3266\,\Delta a & -\ 0.6065 & =0 \\
+\ 1.8023\,\Delta N & -\ 0.5360\,\Delta J & +\ 7.7076\,\Delta u & +\ 1.4474\,\xi & -\ 2.0732\,\eta & -\ 0.9394\,\Delta a & -\ 2.0135 & =0 \\
+\ 0.5470\,\Delta N & +\ 0.2354\,\Delta J & +\ 1.4474\,\Delta u & +11.9392\,\xi & -\ 6.3910\,\eta & -\ 3.8762\,\Delta a & +\ 0.8141 & =0 \\
-\ 0.7688\,\Delta N & -\ 0.2414\,\Delta J & -\ 2.0732\,\Delta u & -\ 6.3910\,\xi & +53.2595\,\eta & +\ 1.5784\,\Delta a & -10.5746 & =0 \\
-\ 1.8674\,\Delta N & +\ 0.3266\,\Delta J & -\ 0.9394\,\Delta u & -\ 3.8762\,\xi & +\ 1.5784\,\eta & +64.8908\,\Delta a & +\ 3.0958 & =0 \\
 & & & & & & nn & =15.6751
\end{array}
$$

NORMAL EQUATIONS FOR TITANIA.

1875–'76.

$$
\begin{array}{rrrrrrrl}
+16.6843\,\Delta N & +\ 2.2191\,\Delta J & +\ 6.4826\,\Delta u & -\ 3.8671\,\xi & +\ 0.2144\,\eta & +11.0708\,\Delta a & -\ 1.7995 & =0 \\
+\ 2.2191\,\Delta N & +12.3437\,\Delta J & +\ 5.3663\,\Delta u & -\ 3.1988\,\xi & -\ 0.8130\,\eta & -\ 1.3238\,\Delta a & +\ 4.0439 & =0 \\
+\ 6.4826\,\Delta N & +\ 5.3663\,\Delta J & +21.3815\,\Delta u & -\ 2.5536\,\xi & -\ 7.0428\,\eta & -\ 2.2602\,\Delta a & -\ 2.3883 & =0 \\
-\ 3.8671\,\Delta N & -\ 3.1988\,\Delta J & -\ 2.5536\,\Delta u & +28.7579\,\xi & -11.4505\,\eta & -\ 1.1046\,\Delta a & -\ 0.4603 & =0 \\
+\ 0.2144\,\Delta N & -\ 0.8130\,\Delta J & -\ 7.0428\,\Delta u & -11.4505\,\xi & +96.8865\,\eta & +14.0910\,\Delta a & -\ 0.5569 & =0 \\
+11.0708\,\Delta N & -\ 1.3238\,\Delta J & -\ 2.2602\,\Delta u & -\ 1.1046\,\xi & +14.0910\,\eta & +40.1370\,\Delta a & +\ 1.8222 & =0 \\
 & & & & & & nn & =14.5053
\end{array}
$$

1881–'82.

$$
\begin{array}{rrrrrrrl}
+12.4551\,\Delta N & +\ 3.4369\,\Delta J & +\ 5.7687\,\Delta u & -\ 0.5327\,\xi & -\ 0.7637\,\eta & +\ 0.4619\,\Delta a & -\ 3.0374 & =0 \\
+\ 3.4369\,\Delta N & +25.0548\,\Delta J & +\ 0.9288\,\Delta u & +\ 0.4117\,\xi & +\ 0.4585\,\eta & +\ 0.0798\,\Delta a & -\ 2.1743 & =0 \\
+\ 5.7687\,\Delta N & +\ 0.9288\,\Delta J & +22.1206\,\Delta u & -\ 0.9609\,\xi & -\ 1.6332\,\eta & -\ 3.1386\,\Delta a & -\ 4.6201 & =0 \\
-\ 0.5327\,\Delta N & +\ 0.4117\,\Delta J & -\ 0.9609\,\Delta u & +\ 9.8223\,\xi & -\ 4.8971\,\eta & +\ 0.9356\,\Delta a & +\ 1.2623 & =0 \\
-\ 0.7637\,\Delta N & +\ 0.4585\,\Delta J & -\ 1.6332\,\Delta u & -\ 4.8971\,\xi & +42.0290\,\eta & -14.3490\,\Delta a & -\ 5.9913 & =0 \\
+\ 0.4619\,\Delta N & +\ 0.0798\,\Delta J & -\ 3.1386\,\Delta u & +\ 0.9356\,\xi & -14.3490\,\eta & +51.6340\,\Delta a & +\ 8.1732 & =0 \\
 & & & & & & nn & =\ 9.8231
\end{array}
$$

1883–'84.

$$
\begin{array}{l}
+14.4499\,\Delta N + 5.6487\,\Delta J + 6.2614\,\Delta u + 2.2455\,\xi - 1.2843\,\eta - 5.1509\,\Delta a \quad 4.0479 = 0 \\
+ 5.6487\,\Delta N + 32.4374\,\Delta J - 2.4580\,\Delta u + 0.4577\,\xi - 0.4264\,\eta - 0.8272\,\Delta a \quad 1.2428 = 0 \\
+ 6.2614\,\Delta N - 2.4580\,\Delta J + 25.3569\,\Delta u + 4.8352\,\xi - 3.4517\,\eta - 8.9633\,\Delta a - 4.6809 = 0 \\
+ 2.2455\,\Delta N + 0.4577\,\Delta J + 4.8352\,\Delta u + 12.3281\,\xi - 9.3200\,\eta - 4.2426\,\Delta a + 0.8005 = 0 \\
- 1.2843\,\Delta N - 0.4264\,\Delta J - 3.4517\,\Delta u - 9.3200\,\xi + 56.0132\,\eta + 11.8902\,\Delta a - 5.3504 = 0 \\
- 5.1509\,\Delta N - 0.8272\,\Delta J - 8.9633\,\Delta u - 4.2426\,\xi + 11.8902\,\eta + 68.0704\,\Delta a + 2.3860 = 0 \\
\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad nn = 9.5323
\end{array}
$$

The solution of these equations gives the following results, the unit of weight being an observation of an angle of position.

Oberon.

1875–1876.

$\Delta N = +0.27599'' \pm 0.09657''$	weight	$= 9.2302$
$\Delta J = -0.29249 \pm 0.08872$	"	$= 10.9360$
$\Delta u = -0.10121 \pm 0.07647$	"	$= 14.7208$
$\xi = +0.18121 \pm 0.05968$	"	$= 24.1680$
$\eta = +0.05881 \pm 0.03343$	"	$= 77.0178$
$\Delta a = -0.06239 \pm 0.05822$	"	$= 25.3947$

1881–1882.

$\Delta N = +0.10134'' \pm 0.06834''$	weight	$= 10.3233$
$\Delta J = +0.14292 \pm 0.04323$	"	$= 25.8031$
$\Delta u = +0.15379 \pm 0.05405$	"	$= 16.5030$
$\xi = +0.10476 \pm 0.07830$	"	$= 7.8649$
$\eta = +0.06274 \pm 0.03502$	"	$= 39.3283$
$\Delta a = -0.01412 \pm 0.02985$	"	$= 54.1125$

1883–1884.

$\Delta N = +0.18123'' \pm 0.14376''$	weight	$= 3.7059$
$\Delta J = +0.03803 \pm 0.09535$	"	$= 8.4243$
$\Delta u = +0.12506 \pm 0.10678$	"	$= 6.7180$
$\xi = -0.01392 \pm 0.08430$	"	$= 10.7772$
$\eta = +0.21277 \pm 0.03930$	"	$= 49.5958$
$\Delta a = -0.04060 \pm 0.03490$	"	$= 62.8891$

Titania.

1875–1876.

$\Delta N = +0.17640'' \pm 0.10132''$	weight	$= 10.8840$
$\Delta J = -0.43858 \pm 0.10210$	"	$= 10.7170$
$\Delta u = +0.16856 \pm 0.08355$	"	$= 16.0051$
$\xi = +0.01427 \pm 0.06599$	"	$= 25.6581$
$\eta = +0.03158 \pm 0.03636$	"	$= 84.5022$
$\Delta a = -0.10972 \pm 0.06234$	"	$= 28.7535$

Titania—Continued.

1881–1882.

$\Delta N = +0''.16682 \pm 0''.07338$	weight	$= 10.2925$
$\Delta J = +0.05746 \pm 0.04802$	"	$= 24.0344$
$\Delta u = +0.15163 \pm 0.05401$	"	$= 18.9970$
$\xi = -0.04352 \pm 0.07783$	"	$= 9.1496$
$\eta = +0.10454 \pm 0.03964$	"	$= 35.2783$
$\Delta a = -0.12082 \pm 0.03475$	"	$= 45.9044$

1883–1884.

$\Delta N = +0''.22445 \pm 0''.06294$	weight	$= 11.5202$
$\Delta J = +0.01319 \pm 0.03957$	"	$= 29.1503$
$\Delta u = +0.15558 \pm 0.04769$	"	$= 20.1776$
$\xi = -0.10034 \pm 0.06766$	"	$= 9.9698$
$\eta = +0.09808 \pm 0.03092$	"	$= 47.7327$
$\Delta a = -0.02081 \pm 0.03053$	"	$= 48.9533$

Denoting by v the residual found by substituting the preceding values of the corrections to the assumed elements in the equations of condition and by p the weight, we have for the different sets of solutions the following results of the control:

$$\Sigma pv^2 = [nn.\,6];$$

and the values of the probable errors of the observations;

Oberon.

1875–1876.

$\Sigma pv^2 = 8.5140$, probable error of an angle $= \pm 0''.2934$
$[nn.\,6] = 8.5186$, probable error of a distance $= \pm 0.2075$

1881–1882.

$\Sigma pv^2 = 6.3586$, probable error of an angle $= \pm 0''.2196$
$[nn.\,6] = 6.3592$, probable error of a distance $= \pm 0.1553$

1883–1884.

$\Sigma pv^2 = 12.1217$, probable error of an angle $= \pm 0''.2768$
$[nn.\,6] = 12.1208$, probable error of a distance $= \pm 0.1957$

Titania.

1875–1876.

$\Sigma pv^2 = 11.7877$, probable error of an angle $= \pm 0.3343$
$[nn.\,6] = 11.7883$, probable error of a distance $= \pm 0.2364$

Titania—Continued.

1881–1882.

$\Sigma pv^2 = 6.8221$, probable error of an angle $= \pm 0''.2354$
$[nn.\ 6] = 6.8224$, probable error of a distance $= \pm 0.1665$

1883–1884.

$\Sigma pv^2 = 7.2232$, probable error of an angle $= \pm 0''.2136$
$[nn.\ 6] = 7.2243$, probable error of a distance $= \pm 0.1511$

All the observations from which the preceding results have been deduced were made with bright wires in a dark field, the red illuminating light being thrown on the wires from a small hole in the end of the micrometer box. The lamp was held by Assistant ANDERSON who has become very skillful in adjusting the illumination to suit the faintest objects. Referring to the column of residuals we see that the largest residuals in the case of Oberon are $-1''.184$, May 25, 1875; and $+1''.017$ on May 1, 1881, both in the angle of position. In the case of Titania, the largest residuals are also in the angles, being $-1''.424$ May 12, 1875, and $-1''.089$ on May 22, 1875. As these observations, especially those of 1881–1884, are well adapted for the determination of the node and inclination of the orbit plane a solution of the equations of condition was made in which equal weight was given to the observations of angles and distances. The results of this solution are as follows:

Oberon.

1875–1876.

$\Delta N = +0''.26939 \pm 0''.10160$
$\Delta J = -0.27303 \pm 0.09354$
$\Delta u = -0.12522 \pm 0.08527$
$\xi = +0.19034 \pm 0.05499$
$\eta = +0.03398 \pm 0.03660$
$\Delta a = -0.06254 \pm 0.07111$

1881–1882.

$\Delta N = +0''.10912 \pm 0''.06045$
$\Delta J = +0.14362 \pm 0.03822$
$\Delta u = +0.14221 \pm 0.06507$
$\xi = +0.10582 \pm 0.10126$
$\eta = +0.06279 \pm 0.04358$
$\Delta a = -0.010505 \pm 0.03714$

1883–1884.

$\Delta N = +0''.18103 \pm 0''.06225$
$\Delta J = +0.03854 \pm 0.04171$
$\Delta u = +0.11123 \pm 0.06283$
$\xi = -0.01164 \pm 0.09778$
$\eta = +0.21242 \pm 0.14436$
$\Delta a = -0.04086 \pm 0.04044$

Oberon—Continued.

1881–1882.

ΔN	$= +$	0.138°	$\pm 0.0929^\circ$
ΔJ	$= +$	0.194	$\pm$ 0.0588
Δu	$= +$	0.209	$\pm$ 0.0735
ϖ	$=$	30.9	$\pm$ 23.56
e	$=$	0.00290	$\pm$ 0.00165
Δa	$= -$	$0.0141''$	$\pm 0.02985''$

1883–1884.

ΔN	$= +$	0.246°	$\pm 0.1954^\circ$
ΔJ	$= +$	0.052	$\pm$ 0.1296
Δu	$= +$	0.170	$\pm$ 0.1451
ϖ	$=$	93.7	$\pm$ 22.62
e	$=$	0.00506	$\pm$ 0.00094
Δa	$= -$	$0.0406''$	$\pm 0.03490''$

Titania.

1875–1876.

ΔN	$= +$	0.321°	$\pm 0.1845^\circ$
ΔJ	$= -$	0.799	$\pm$ 0.1860
Δu	$= +$	0.307	$\pm$ 0.1522
ϖ	$=$	65.7	$\pm$ 102.47
e	$=$	0.00110	$\pm$ 0.001362
Δa	$= -$	$0''.1097$	$\pm 0''.06234$

1881–1882.

ΔN	$= +$	0.304°	$\pm 0.1336^\circ$
ΔJ	$= +$	0.105	$\pm$ 0.0875
Δu	$= +$	0.276	$\pm$ 0.0984
ϖ	$=$	112.6	$\pm$ 37.19
e	$=$	0.00360	$\pm$ 0.001501
Δa	$= -$	$0''.1208$	$\pm 0''.03475$

1883–1884.

ΔN	$= +$	0.409°	$\pm 0.1146^\circ$
ΔJ	$= +$	0.024	$\pm$ 0.0721
Δu	$= +$	0.283	$\pm$ 0.0869
ϖ	$=$	135.7	$\pm$ 21.32
e	$=$	0.00446	$\pm$ 0.001685
Δa	$= -$	$0''.0208$	$\pm 0''.03053$

§§4. As the observations of 1875 and 1876 are not so well suited for the determination of ΔN and ΔJ, I omit the results for the corrections in those years. The assumed position of the orbit plane with respect to the equator was

$$\begin{aligned} 1881\text{–}1882,\ N &= 165^\circ.549 \\ J &= 75.184 \\ 1883\text{–}1884,\ N &= 165.580 \\ J &= 75.186 \end{aligned}$$

Applying the corrections found above we have

Oberon.

$$\begin{aligned} 1881\text{–}1882,\ N &= 165^\circ.687 \pm 0^\circ.0929 \\ J &= 75.378 \pm 0.0588 \\ 1883\text{–}1884,\ N &= 165.826 \pm 0.1954 \\ J &= 75.238 \pm 0.1296 \end{aligned}$$

Titania.

$$\begin{aligned} 1881\text{–}1882,\ N &= 165^\circ.853 \pm 0^\circ.1336 \\ J &= 75.289 \pm 0.0875 \\ 1883\text{–}1884,\ N &= 165.989 \pm 0.1146 \\ J &= 75.210 \pm 0.0721 \end{aligned}$$

Combining these results we have from the observations of Oberon:

$$\begin{aligned} N &= 165^\circ.712 \pm 0^\circ.0839 \\ J &= 75.354 \pm 0.0535 \\ \Delta u &= +\ 0.201 \pm 0.0656 \end{aligned}$$

And from those of Titania:

$$\begin{aligned} N &= 165^\circ.913 \pm 0^\circ.0870 \\ J &= 75.242 \pm 0.0556 \\ \Delta u &= +\ 0.280 \pm 0.0751 \end{aligned}$$

The differences of these results for N and J found from the two satellites are so small that probably they are caused by errors of observation, and we may assume that the planes of these orbits are practically coincident. The mean result from both satellites is

$$\begin{aligned} N &= 165^\circ.809 \pm 0^\circ.0604 \\ J &= 75.300 \pm 0.0386 \end{aligned}$$

The mean epoch of these observations is 1882.767, and hence

$$\left.\begin{aligned} N &= 165^\circ 812 + 0^\circ.0142 \,.\, t \\ J &= 75.300 - 0.0014 \,.\, t \end{aligned}\right\} 1883.0$$

t is the number of years from 1883.0.

The values of u indicate small corrections to the epochs, but the observations were made when the conditions were not favorable for the determination of this correction, which can be found with more certainty from future and more distant observations. For the present this correction may be neglected.

The values of the eccentricity confirm previous results that these orbits are sensibly circular.

The values of the mean distances assumed in the computations are for

$$\begin{aligned} \text{Oberon, } a &= 42''.15 \\ \text{Titania, } a &= 31.46 \end{aligned}$$

Denoting by m the mass of the planet, the values of Δa give—

Oberon.

$$1875\text{–}1876, \quad m = \frac{1}{22655 \pm 94}$$

$$1881\text{–}1882, \quad m = \frac{1}{22578 \pm 47}$$

$$1883\text{–}1884, \quad m = \frac{1}{22620 \pm 56}$$

The mean value from the observations of Oberon is

$$m = \frac{1}{22603 \pm 34}$$

Titania.

$$1875\text{–}1876, \quad m = \frac{1}{22921 \pm 136}$$

$$1881\text{–}1882, \quad m = \frac{1}{22945 \pm 76}$$

$$1883\text{–}1884, \quad m = \frac{1}{22727 \pm 66}$$

The mean result from the observations of Titania is

$$m = \frac{1}{22833 \pm 47}$$

Combining these results by weights we have as the final result from the observations of both satellites

$$\textit{Mass of Uranus} = \frac{1}{22682 \pm 27}$$

This value of the mass of the planet is smaller, I think, than any found before, but it seems to be a true deduction from the measurements. The value of the revolution of the screw of the micrometer used in the reductions is that found by Professor HOLDEN, or 9″.9479, and no corrections were applied for temperature. Recent observations show that the coefficient for temperature is very small, and since the observations of the satellites were made in the spring months we may safely conclude that the correction for temperature is not sensible. Most of my own observations for determining the value of one turn of the screw show that the above value of a revolution is a little too great to suit my measurements of distances, but the difference is very small and its influence on the mean distances of these satellites would be slight. It would tend to make the mass of the planet still smaller.

The resulting value for the mass of Uranus has been found from such a number of observations that it is perhaps as good as I can obtain with the filar micrometer of the 26-inch refractor; and there seems to be but little use in my continuing observations of these satellites. A favorable time for examining the eccentricities of their orbits will occur again about the beginning of the next century, but at that time the planet will be in a great southern declination and will not be well situated for observations at northern observatories.

The oppositions of the planet from 1881 to 1884 being especially favorable for searching for new satellites, on several good nights I made careful examinations along the orbit plane of the known satellites, but no new ones were found.

JUNE 23, 1885.

BOND and STRUVE is 1″.669; and even in the case of the same observer there is a difference of more than half a second. These differences result no doubt from the difficulty of observing such a faint object as this satellite, and partly also from the unfavorable latitude of Pulkowa for observations of Neptune in 1848. But the differential formula shows that the difficulty is largely inherent, and on account of the small value of h we may expect considerable differences in the results for the value of the mass when h is found by different observers, since the personal errors of the observers though small, will exert a large influence. Aside therefore from the general interest of making an exact determination of the orbit of this distant satellite there is a good reason, I think, why different astronomers who have command of sufficient optical means should make a pretty full series of observations of the satellite of Neptune, since we can hardly assume that the measures of any observer are to be taken as perfect.

Observations of this satellite were begun at the Naval Observatory by Professors NEWCOMB and HOLDEN as soon as the 26-inch refractor was mounted, in November, 1873. Professor NEWCOMB has discussed his own observations in Appendix I to the annual volume of the observatory for 1873. Professor HOLDEN continued his observations until November 4, 1878. My own observations were begun in the opposition of 1875 and were continued through the opposition of 1876. They were then discontinued, but were resumed in 1881, and continued through three oppositions until February 1, 1884. In these latter years the apparent orbit of the satellite had become a little more opened, though the change was not great, and there seemed to be a better opportunity for determining the position of the satellite in its orbit.

In the years 1875 and 1876 five measurements of the position angle and of the double distance were generally made on each night; but in the later years four settings of the position circle were made and three measurements of the double distance. Achromatic eye-pieces were used giving magnifying powers of 606 and 888. A red light was thrown on the wires of the micrometer from a lamp held by an assistant. The assistant, Mr. G. ANDERSON, generally read the scale giving the number of the revolutions, and I am much indebted to him for faithful assistance extending now over a number of years.

As the observations of this satellite made by LASSELL and MARTH at Malta in 1863 and 1864 have never been discussed, so far as I know, I have included them in my discussion.

Some time before the 26-inch refractor was mounted there was a report that a new satellite had been suspected by Mr. LASSELL and others. As soon as the telescope was mounted a careful search for a new satellite was made by Professors NEWCOMB and HOLDEN, but none was found. On favorable nights from 1881 to 1884 I made several examinations of the region about Neptune, but found nothing.

The following table gives the observations. The correction for differential refraction has been put equal to zero. The column "Red. for Time" gives the reduction of the distance to the time when the position angle was measured.

Observations of the Satellite of Neptune.

Date.	Washington M. T.	*p*	Diff. Ref.	Washington M. T.	*s*	Diff. Ref.	Red. for time.	Wt.	Remarks.
1875.	h. m.	°	°	h. m.	″	″	″		
Sept. 6	12 19	201.0	0.00	12 30	11.90	0.00	+0.09	3	
8	11 50	41.6	0.00	11 59	16.78	0.00	—0.02	4	
9	12 10	20.9	0.00	12 20	11.62	0.00	+0.08	2	
20	11 44	37.2	0.00	11 53	17.23	0.00	+0.00	2	
29	11 40	215.1	0.00	12 0	16.32	0.00	+0.05	3	
Oct. 2	10 53	33.8	0.00	11 6	16.84	0.00	+0.04	3	
Nov. 27	7 30	214.7	0.00	7 42	16.17	0.00	+0.04	2	
30	7 57	32.2	0.00	8 12	16.29	0.00	+0.06	3	
Dec. 2	8 21	230.3	0.00	8 35	14.16	0.00	—0.09	3	
15	6 40	207.2	0.00	6 56	13.96	0.00	+0.11	3	
17	9 0	41.3	0.00	. .	. . .	. .	. . .	3	
20	6 2	223.1	0.00	6 17	16.12	0.00	—0.06	3	
1876.									
Jan. 3	7 42	64.1	0.00	7 54	9.72	0.00	—0.11	2	
4	7 11	36.8	0.00	7 42	16.70	0.00	+0.01	3	Driving clock behaving badly.
7	7 35	214.1	0.00	7 45	16.39	0.00	0.01	4	
10	6 38	33.8	0.00	6 52	17.11	0.00	+0.02	1½	Windy and images very unsteady.
13	6 42	214.3	0.00	7 12	16.35	0.00	+0.07	2	
24	7 10	223.7	0.00	7 24	14.28	0.00	—0.08	3	
25	6 52	207.4	0.00	7 4	14.80	0.00	+0.06	3	Satellite faint.
28	6 28	28.6	0.00	6 43	14.67	0.00	+0.08	2	Telescope very unsteady.
31	6 41	205.0	0.00	6 50	13.73	0.00	+0.06	4	
1877.									
Jan. 9	6 51	18.0	0.00	7 4	11.51	0.00	+0.10	2	
25	6 11	59.2	0.00	6 24	11.30	0.00	—0.11	3	
26	6 17	35.3	0.00	6 27	16.36	0.02	+0.02	3	
28	6 13	235.7	0.00	6 24	11.38	0.00	—0.09	2	Satellite extremely faint.
29	6 14	213.5	0.00	6 28	15.55	0.00	+0.03	2	Satellite extremely faint.
Feb. 1	6 16	32.6	0.00	6 30	15.91	0.00	+0.04	3	
3	6 50	229.0	0.00	7 1	12.83	0.00	—0.07	2	Satellite very faint.
6	6 23	50.2	0.00	6 32	13.75	0.00	—0.06	3	Satellite faint.
1881.									
Sept. 20	13 15.4	36.8	0.00	13 25.4	16.61	0.00	+0.03	2	Faint.
22	13 55.5	243.9	0.00	13 6.0	13.30	0.00	—0.07	3	
23	12 48.5	215.8	0.00	12 56.5	16.17	0.0.	+0.02	3	
24	12 14.1	162.8	0.00	12 25.6	7.96	0.00	+0.06	2	Very faint.
29	12 30.5	213.5	0.00	12 37.0	15.80	0.00	+0.03	3	
Oct. 1	11 59.1	59.5	0.00	12 6.1	14.31	0.00	—0.04	2	Faint.
20	10 17.2	22.0	0.00	10 24.7	13.32	0.00	+0.05	2	Faint.
21	10 50.7	277.5	0.00	11 1.2	8.87	0.00	—0.06	2	Very faint.
22	10 49.8	228.0	0.00	10 56.3	16.60	0.00	—0.01	3	
25	10 24.6	46.9	0.00	10 31.9	17.10	0.00	—0.01	2	
26	10 7.5	15.9	0.00	10 16.0	11.86	0.0.	+0.06	2	Faint.
27	10 46.5	265.0	0.00	10 55.0	9.57	0.00	—0.06	2	Faint. Sky hazy.

Observations of the Satellite of Neptune—Continued.

Date.	Washington M. T.	p	Diff. Ref.	Washington M. T.	s	Diff. Ref.	Red. for time.	Wt.	Remarks.
●1881.	h. m.	°	°	h. m.	″	″	″		
Nov. 13	9 35.0	351.0	0.00	9 50.0	8.08	0.00	+0.10	2	Very faint.
15	10 59.2	214.5	0.00	11 8.2	16.23	0.00	+0.03	3	
16	9 47.2	163.3	0.00	9 57.7	7.81	0.00	+0.06	3	Excessively faint. Hazy.
20	11 14.4	238.7	0.00	11 23.4	14.59	0.00	—0.05	3	
26	9 20.3	234.5	0.00	9 32.8	14.94	0.00	—0.07	2	
Dec. 8	9 19.4	229.5	0.00	9 25.4	16.18	0.00	—0.02	3	
15	8 22.7	198.3	0.00	8 30.2	12.31	0.00	+0.05	2	Faint.
17	8 18.8	46.6	0.00	8 25.8	16.74	0.00	—0.01	2	
18	7 35.9	17.0	0.00	7 41.4	11.92	0.00	+0.04	2	Faint.
24	8 32.1	8.1	0.00	8 38.1	10.04	0.00	+0.05	3	
1882.									
Jan. 2	6 57.1	180.0	0.00	7 7.1	8.95	0.00	+0.07	3	Very faint.
3	7 42.1	66.3	0.00	7 51.1	11.76	0.00	—0.07	2	Extremely faint.
7	8 47.9	215.9	0.00	8 55.9	16.30	0.00	+0.02	3	Very faint. Hazy.
9	8 58.0	60.1	0.00	9 6.0	13.83	0.00	—0.05	2	
19	8 27.5	210.0	0.00	8 36.5	14.39	0.00	+0.05	2	Faint.
Feb. 2	6 53.1	47.8	0.00	6 59.6	16.22	0.00	—0.02	2	
3	6 45.2	21.7	0.00	6 52.7	12.41	0.00	+0.05	2	Faint.
6	6 36.8	197.6	0.00	6 44.3	11.73	0.00	+0.05	3	Very faint.
8	6 56.9	45.5	0.00	7 3.9	16.10	0.00	—0.01	3	
15	6 53.6	8.0	0.00	6 59.6	9.46	0.00	+0.04	2	Faint.
Oct. 4	12 26.9	220.2	0.00	12 34.9	16.61	0.00	+0.01	3	
5	11 44.4	173.7	0.00	11 54.4	8.85	0.00	+0.06	3	Faint.
6	11 44.4	70.4	0.00	11 53.4	12.40	0.00	—0.06	3	Faint.
7	11 45.0	39.4	0.00	11 51.5	16.46	0.00	+0.01	2	Faint.
8	12 25.5	344.0	0.00	12 36.5	8.11	0.00	+0.06	2	Fog. Very faint.
9	11 50.0	246.8	0.00	11 59.0	13.14	0.00	—0.06	2	Faint. Misty sky.
18	11 18.0	60.9	0.00	11 26.5	14.60	0.00	—0.05	2	Faint.
Dec. 28	9 30.8	48.9	0.00	9 41.3	16.72	0.00	—0.02	2	Very unsteady.
31	6 33.5	229.2	0.00	6 41.5	16.00	0.00	—0.02	2	Unsteady and faint.
1883.									
Jan. 12	6 35.0	223.8	0.00	6 43.5	16.79	0.00	0.00	3	
14	7 17.6	74.3	0.00	7 25.6	11.03	0.00	—0.06	2	Very faint.
15	6 34.6	42.2	0.00	6 40.6	16.52	0.00	0.00	3	
24	6 29.0	214.7	0.00	6 37.0	15.85	0.00	+0.02	2	Very faint.
Oct. 15	13 45.9	221.5	0.00	13 53.9	16.95	0.00	+0.01	2	Faint. Moonlight.
24	11 39.4	38.7	0.00	11 46.4	16.49	0.00	+0.02	3	Misty.
29	11 55.5	65.6	0.00	12 5.5	13.99	0.00	—0.06	2	Very faint. Misty.
30	10 45.1	35.7	0.00	10 55.1	16.01	0.00	+0.03	2	Sky misty. Very faint.
31	11 32.6	331.9	0.00	11 43.1	7.80	0.00	+0.03	2	Very faint.
Nov. 1	10 43.2	243.8	0.00	10 52.2	13.95	0.00	—0.05	2	
4	10 11.7	63.2	0.00	10 19.7	14.65	0.00	—0.05	3	
5	10 17.8	33.6	0.00	10 25.3	15.57	0.00	+0.03	3	
28	9 40.0	49.5	0.00	9 46.5	16.79	0.00	—0.01	3	
29	11 24.6	11.6	0.00	11 34.1	10.69	0.00	+0.07	3	Faint.
30	9 2.6	265.3	9.00	9 11.6	9.50	0.00	—0.06	2	Very faint.

Observations of the Satellite of Neptune—Continued.

Date.	Washington M. T.		p	Diff. Ref.	Washington M. T.		s	Diff. Ref.	Red. for time.	Wt.	Remarks.
1883.	h.	m.	°	°	h.	m.	″	″	″		
Dec. 1	10	40.1	225.1	0.00	10	50.1	17.05	0.00	0.00	2	Misty.
3	9	15.3	83.4	0.00	9	23.3	10.36	0.00	—0.06	3	Faint.
5	10	34.3	7.2	0.00	. . .		. .	. .	. .	2	Very faint.
6	10	41.4	253.8	0.00	10	52.4	11.44	0.00	—0.08	2	Very faint.
28	7	15.4	35.6	0.00	7	23.9	15.73	0.00	+0.03	2	Faint.
1884.											
Jan. 5	6	45.1	237.7	0.00	6	54.1	15.10	0.00	—0.04	2	Faint.
17	6	43.2	230.2	0.00	6	50.7	16.14	0.00	—0.02	3	
20	8	33.1	47.5	0.00	8	41.1	16.72	0.00	—0.01	3	
21	6	46.2	17.0	0.00	6	52.7	11.26	0.00	+0.05	2	
23	7	31.2	225.2	0.00	7	40.2	16.62	0.00	—0.01	2	Faint.
26	7	47.3	44.4	0.00	7	53.8	16.42	0.00	+0.00	3	
Feb. 1	7	18.5	42.1	0.00	7	27.5	16.50	0.00	+0.01	3	
PROFESSOR HOLDEN'S OBSERVATIONS.											
1874.											
Dec. 21	7	38	212.6	0.00	8	3	16.80	0.00	+0.03	1	
24	7	4	31.5	0.00	7	39	16.33	0.00	+0.05	3	
1875.											
Jan. 5	6	57	28.5	0.00	7	25	15.76	0.00	+0.12	2	
25	7	31	219.5	0.00	7	55	16.95	0.00	—0.05	1	
26	8	12	197.4	0.00	8	27	10.92	0.00	+0.13	1	
Sept. 26	11	20	32.3	0.00	11	50	16.46	0.00	+0.05	5	Without clock.
Oct. 5	10	26	212.5	0.00	10	46	16.83	0.00	+0.07	5	Without clock.
13	9	27	48.7	0.00	9	48	14.33	0.00	—0.14	2	
16	10	45	227.4	0.00	11	4	15.73	0.00	—0.10	2	
17	11	54	205.1	0.00	12	22	13.92	0.00	+0.19	3	
19	9	30	46.2	0.00	9	52	15.32	0.00	—0.12	4	
20	10	50	24.5	0.00	11	11	13.91	0.00	+0.14	2	
22	10	31	223.4	0.00	10	47	16.85	0.00	—0.07	4	Satellite steady but faint.
25	9	45	41.0	0.00	9	27	16.84	0.00	+0.07	4	Without clock.
29	9	9	201.1	0.00	9	36	12.71	0.00	+0.21	3	
31	9	53	40.2	0.00	10	17	17.11	0.00	—0.06	2	Very windy.
Nov. 5	8	53	71.9	0.00	9	34	7.74	0.00	—0.36	2	
6	8	23	40.1	0.00	8	37	17.09	0.00	—0.02	2	
12	10	36	34.7	0.00	10	52	17.53	0.00	+0.02	2	Moonlight strong.
15	8	43	216.2	0.00	9	6	17.64	0.00	+0.02	2	
17	9	0	58.0	0.00	9	30	11.08	0.00	—0.26	1	
22	9	0	173.2	0.00	9	14	6.07	0.00	+0.11	1	
24	8	2	32.7	0.00	8	24	16.70	0.00	+0.06	3	
29	7	55	53.6	0.00	8	10	13.10	0.00	—0.11	2	
1876.											
Sept. 28	11	37	193.7	0.00	11	59	11.03	0.00	+0.19	4	
Oct. 11	10	29	61.0	0.00	11	8	11.96	0.00	—0.33	1	
12	10	45	36.0	0.00	11	14	17.15	0.00	+0.05	3	
13	10	23	356.0	0.00	10	48	7.82	0.00	+0.20	4	

Observations of the Satellite of Neptune—Continued.

PROFESSOR HOLDEN'S OBSERVATIONS—Continued.

Date.	Washington M. T.		*p*	Diff. Ref.	Washington M. T.		*s*	Diff. Ref.	Red. for time.	Wt.	Remarks.
1876.	h.	m.	°	°	h.	m.	″	″	″		
Oct. 18	9	56	33.6	0.00	10	18	16.72	0.00	+0.06	4	
27	9	31	210.8	0.00	9	56	15.72	0.00	+0.12	.	
Nov. 1	9	42	227.6	0.00	9	54	16.10	0.00	—0.06	3	Strong moonlight.
7	11	50	222.6	0.00	12	10	16.60	0.00	—0.06	2	
Dec. 13	9	31	211.1	0.00	9	44	15.61	0.00	+0.06	2	
1877.											
Oct. 6	11	41	19.3	0.00	11	53	11.90	0.00	+0.09	1	
18	10	18	12.9	0.00	10	31	10.53	0.00	+0.11	1	
31	9	22	240.8	0.00	9	34	12.33	0.00	—0.10	2	
Nov. 4	10	50	32.9	0.00	11	4	16.50	0.00	+0.05	2	
6	10	37	234.4	0.00	10	52	14.22	0.00	—0.10	2	
7	10	28	213.8	0.00	10	36	15.84	0.00	+0.03	3	
12	10	25	231.1	0.00	10	44	15.25	0.00	—0.11	3	
13	10	7	208.9	0.00	10	25	15.10	0.00	+0.09	3	
1878.											
Nov. 1	9	17	195.8	0.00	9	28	11.26	0.00	+0.09	2	
4	11	30	4.7	0.00	11	40	10.27	0.00	+0.08	1	Faint.

LASSELL AND MARTH'S OBSERVATIONS, MALTA.

Date.	Greenwich M. T.		*p*	Diff. Ref.	Greenwich M. T.		*s*	Diff. Ref.	Red. for time.	Wt.	Remarks.
1863.	h.	m.	°	°	h.	m.	″	″	″		
Sept. 10	12	33.7	214.83	0.00	12	39.3	14.38	0.00	—0.04	.	
11	11	48.0	212.15	0.00	12	35.4	16.22	0.00	+0.27	.	
19	11	37.1	33.50	0.00	12	35.6	15.46	0.00	—0.30	.	
Oct. 31	8	30.3	34.11	0.00	9	14.6	16.18	0.00	+0.19	.	
Dec. 11	6	41.9	35.14	0.00	7	23.9	16.65	0.00	+0.06	.	
1864.											
Aug. 2	13	59.6	32.99	0.00	14	42.1	15.15	0.00	+0.22	.	
13	13	55.4	36.88	0.00	14	35.7	16.15	0.00	+0.19	.	
30	12	43.3	44.67	0.00	13	35.7	8.35	0.00	—0.58	.	
31	12	30.8	34.98	0.00	13	10.4	17.95	0.00	—0.03	.	
Sept. 8	12	19.3	217.71	0.00	12	45.9	9.77	0.00	—0.27	.	
9	12	13.2	213.23	0.00	12	56.8	17.25	0.00	+0.07	.	
12	12	20.7	33.88	0.00	13	8.4	16.77	0.00	+0.12	.	
15	10	58.9	214.75	0.00	11	29.3	17.39	0.00	+0.08	.	
15	12	13.4	213.19	0.00	12	55.2	17.00	0.00	+0.15	.	
23	11	27.4	40.19	0.00	12	0.4	13.37	0.00	—0.25	.	
24	11	28.1	33.19	0.00	12	7.7	15.99	0.00	+0.20	.	
30	10	21.7	33.23	0.00	11	7.8	15.00	0.00	+0.29	.	
Oct. 3	10	51.8	210.99	0.00	11	38.2	14.48	0.00	+0.32	.	
5	10	12.6	37.85	0.00	10	37.9	15.49	0.00	—0.14	.	
31	8	40.9	218.10	0.00	9	24.4	10.70	0.00	—0.46	.	
Nov. 1	8	37.5	213.35	0.00	8	34.7	17.44	0.00	0.00	.	
7	8	12.0	212.37	0.00	8	55.0	16.58	0.00	+0.09	.	

The preceding observations were compared with the orbit of the satellite given by Professor NEWCOMB. The elements of this circular orbit referred to the equator are as follows:

Epoch, 1874, Jan. 0.0 Washington, m. t.

Longitude at epoch,	$u =$	98°.96
Inclination,	J =	121.70
Node,	N =	183.03
Periodic time,		5.8769 days
Mean distance,	$a =$	16″.275

The following table contains the Washington mean time, corrected for aberration, when the angle of position was observed, the computed angle of position and distance, and the differences between the computed and observed quantities.

Comparison of the Observations.

Date.	Wash. M. T.	Computed p	$\Delta°p$	$\Delta''p$	Computed s	Δs
1875.	h. m.	°	°	″	″	″
Sept. 6	8 17.1	200.79	−0.21	−0.04	12.07	+0.08
8	7 48.3	41.86	+0.26	+0.07	16.46	−0.30
9	8 8.4	18.76	−2.14	−0.43	11.45	−0.25
20	7 43.5	37.36	+0.16	+0.05	16.86	−0.37
29	7 40.1	213.99	−1.11	−0.32	16.48	+0.11
Oct. 2	6 53.3	33.44	−0.36	−0.10	16.38	−0.50
Nov. 27	3 29.4	212.90	−1.80	−0.51	16.29	+0.08
30	3 56.1	31.40	−0.80	−0.22	15.86	−0.49
Dec. 2	4 20.0	228.72	−1.58	−0.38	13.91	−0.16
15	2 37.6	205.99	−1.21	−0.29	13.84	−0.23
17	4 57.4	41.67	+0.37	+0.10	. .	. .
20	1 59.1	222.80	−0.30	−0.08	15.81	−0.25
1876.						
Jan. 3	3 37.2	60.73	−3.37	−0.57	9.62	+0.01
4	3 6.0	36.62	−0.18	−0.05	16.56	−0.15
7	3 29.6	215.30	+1.20	+0.34	16.43	+0.03
10	2 32.2	34.94	+1.14	+0.33	16.36	−0.77
13	2 35.8	213.83	−0.47	−0.13	16.15	−0.27
24	3 2.2	227.25	+3.55	+0.87	13.96	−0.24
25	2 44.1	209.07	+1.67	+0.43	14.66	−0.20
28	2 19.6	28.11	−0.49	−0.12	14.29	−0.46
31	2 32.2	206.49	+1.49	+0.36	13.66	−0.13
1877.						
Jan. 9	2 45.6	19.21	+1.21	+0.24	11.37	−0.24
25	2 3.3	58.90	−0.30	−0.06	10.73	−0.46
26	2 9.1	35.40	+0.10	+0.03	16.08	−0.20
28	2 4.8	236.46	+0.76	+0.15	11.44	+0.15
29	2 5.7	214.29	+0.79	+0.22	15.97	+0.39

Date.	Wash. M. T.	Computed p	$\Delta°p$	$\Delta''p$	Computed s	Δs
1877.	h. m.	°	°	″	″	″
Feb. 1	2 7.3	33.10	+0.50	+0.14	15.68	−0.27
3	2 41.0	231.70	+2.70	+0.61	12.98	+0.22
6	2 13.6	50.54	+0.34	+0.08	13.37	−0.32
1881.						
Sept. 20	9 13.5	39.80	+3.00	+0.86	16.37	−0.27
22	8 53.8	247.22	+3.32	+0.75	12.93	−0.30
23	8 46.9	218.66	+2.86	+0.81	16.22	+0.03
24	8 12.6	166.37	+3.57	+0.48	7.72	−0.30
29	8 29.5	215.59	+2.09	+0.57	15.71	−0.12
Oct. 1	7 58.3	61.60	+2.10	+0.52	14.28	+0.01
20	6 17.6	24.24	+2.24	+0.51	13.14	−0.23
21	6 51.2	279.18	+1.68	+0.24	8.07	−0.74
22	6 50.4	230.24	+2.24	+0.65	16.61	+0.02
25	6 25.2	49.09	+2.19	+0.64	16.74	−0.35
26	6 8.2	19.10	+3.20	+0.67	11.98	+0.06
27	6 47.2	267.74	+2.74	+0.44	9.18	−0.33
Nov. 13	5 35.7	355.17	+4.17	+0.61	8.37	+0.19
15	6 59.8	217.65	+3.15	+0.90	16.31	+0.05
16	5 47.8	167.79	+4.49	+0.61	7.76	−0.11
20	7 14.9	240.54	+1.84	+0.46	14.29	−0.25
26	5 20.6	239.03	+4.53	+1.16	14.61	−0.26
Dec. 8	5 18.9	231.84	+2.34	+0.66	16.13	−0.03
15	4 21.6	201.07	+2.77	+0.60	12.34	−0.02
17	4 17.5	48.18	+1.58	+0.46	16.60	−0.13
18	3 34.5	19.79	+2.79	+0.59	12.03	+0.07
24	4 30.1	11.06	+2.96	+0.53	10.26	+0.17

Comparison of the Observations—Continued.

Date.	Wash. M. T.	Computed p	Δ°p	Δ″p	Computed s	Δs
1882.	h. m.	°	°	″	″	″
Jan. 2	2 54.0	182.67	+2.67	+0.42	8.96	—0.06
3	3 38.9	69.31	+3.01	+0.62	11.72	+0.03
7	4 44.2	217.20	+1.30	+0.36	16.02	—0.30
9	4 54.1	61.96	+1.86	+0.44	13.41	—0.37
19	4 22.2	210.77	+0.77	+0.20	14.52	+0.08
Feb. 2	2 45.8	50.02	+2.22	+0.62	15.92	—0.28
3	2 37.8	22.39	+0.69	+0.15	12.32	—0.14
6	2 29.0	199.95	+2.35	+0.48	11.74	—0.04
8	2 48.8	46.96	+1.46	+0.41	16.24	+0.15
15	2 44.5	8.91	+0.91	+0.15	9.60	+0.10
Oct. 4	8 26.1	222.57	+2.37	+0.69	16.64	+0.02
5	7 43.7	178.18	+4.48	+0.69	8.86	—0.05
6	7 43.7	72.77	+2.37	+0.51	12.29	—0.05
7	7 44.4	41.68	+2.28	+0.66	16.56	+0.09
8	8 25.0	349.05	+5.05	+0.71	8.11	—0.06
9	7 49.6	249.73	+2.93	+0.66	12.94	—0.14
18	7 18.2	63.25	+2.35	+0.59	14.41	—0.14
Dec. 28	5 28.7	50.67	+1.77	+0.51	16.43	—0.27
31	2 31.0	232.28	+3.08	+0.87	16.18	+0 20
1883.						
Jan. 12	2 31.0	225.98	+2.18	+0.63	16.63	—0.16
14	3 13.3	77.35	+3.05	+0.57	10.65	—0.32
15	2 30.2	44.46	+2.26	+0.65	16.59	+0.07
24	2 23.3	219.93	+5.23	+1.47	16.15	+0.28
Oct. 15	9 45.8	224.75	+3.25	+0.95	16.76	—0.20
24	7 39.8	42.04	+3.34	+0.96	16.53	+0.02
29	7 56.0	67.56	+1.96	+1.48	13.94	+0.01
30	6 45.7	39.58	+3.88	+1.10	16.20	+0.16
31	7 33.2	335.36	+3.46	+0.46	7.62	—0.21
Nov. 1	6 43.8	247.08	+3.28	+0.80	14.03	+0.13
4	6 12.4	65.55	+2.35	+0.59	14.36	—0.24
5	6 18.5	36.45	+2.85	+0.78	15.65	+0.05
28	5 40.4	51.00	+1.50	+0.44	16.80	+0.02
29	7 25.0	13.53	+1.93	+0.37	10.93	+0.17
30	5 2.9	272.91	+7.61	+1.24	9.36	—0.08
Dec. 1	6 40.4	228.26	+3.16	+0.93	16.92	—0.13
3	5 15.5	87.32	+3.92	+0.69	10.03	—0.27
5	6 34.3	7.68	+0.48	+0.08	. .	. .
6	6 41.3	259.29	+5.49	+1.08	11.25	—0.11
28	3 13.5	37.03	+1.43	+0.39	15.71	—0.05
1884.						
Jan. 5	2 42.3	239.95	+2.25	+0.59	15.05	—0.01
17	2 38.9	232.82	+2.62	+0.74	16.22	+0.10
20	4 28.3	49.18	+1.68	+0.48	16.52	—0.19
1884.	h. m.	°	°	″	″	″
Jan. 21	2 41.3	19.23	+2.23	+0.46	11.70	+0.39
23	3 26.0	228.70	+3.50	+1.01	16.52	—0.09
26	3 41.8	46.83	+2.43	+0.70	16.53	+0.11
Feb. 1	3 12.1	44.19	+2.09	+0.60	16.38	—0.13
HOLDEN'S OBSERVATIONS.						
1874–'75.						
Dec. 21	3 34.6	215.05	+2.45	+0.71	16.61	—0.22
24	3 0.2	34.46	+2.96	+0.85	16.52	+0.14
Jan. 5	2 51.6	30.48	+1.98	+0.53	15.41	—0.47
25	3 22.7	219.28	—0.22	—0.06	16.04	—0.86
26	4 3.6	198.63	+1.23	+0.23	10.66	—0.39
Sept. 26	7 19.9	35.40	+3.10	+0.90	16.71	+0.20
Oct. 5	6 26.4	212.61	+0.11	+0.03	16.19	—0.71
13	5 27.7	49.24	+0.54	+0.13	14.21	+0.02
16	6 45.8	226.48	—0.92	—0.24	15.19	—0.44
17	7 54.8	205.82	+0.72	+0.18	13.96	—0.15
19	5 30.8	46.24	+0.04	+0.01	15.25	+0.05
20	6 50.8	25.39	+0.89	+0.21	13.80	—0.25
22	6 31.9	224.05	+0.65	+0.18	15.95	—0.83
25	5 45.9	43.44	+2.44	+0.69	16.11	—0.80
29	5 9.8	202.18	+1.08	+0.24	12.63	—0.29
31	5 53.8	40.98	+0.78	+0.23	16.66	—0.39
Nov. 5	4 53.7	72.51	+0.61	+0.08	7.79	+0.41
6	4 23.7	39.86	—0.24	—0.07	16.81	—0.26
12	6 36.4	36.08	+1.38	+0.41	16.88	—0.67
15	4 43.2	216.37	+0.17	+0.05	16.89	—0.77
17	5 0.1	57.78	—0.22	—0.04	10.91	+0.09
22	4 59.8	174.28	+1.08	+0.12	6.62	+0.44
24	4 1.6	33.61	+0.91	+0.26	16.46	—0.30
29	3 54.3	50.85	—2.75	—0.63	13.13	+0.14
1876.						
Sept. 28	7 37.0	195.61	+1.91	+0.36	10.77	—0.45
Oct. 11	6 29.6	61.00	0.00	0.00	11.11	—0.52
12	6 45.6	36.01	+0.01	0.00	16.75	—0.45
13	6 23.7	359.06	+3.06	+0.41	7.68	—0.34
18	5 56.8	34.23	+0.63	+0.18	16.47	—0.31
27	5 31.9	210.72	—0.08	—0.02	15.57	—0.27
Nov. 1	5 42.8	228.14	+0.54	+0.14	15.09	—0.95
7	7 50.6	223.52	+0.92	+0.26	16.37	—0.17
Dec. 13	5 29.0	211.19	+0.09	+0.02	15.60	—0.07

Comparison of the Observations—Continued.

Date.	Wash. M. T.	Computed p	$\Delta^\circ p$	$\Delta'' p$	Computed s	Δs
1877.	h. m.	°	°	"	"	"
Oct. 6	7 41.2	21.74	+2.44	+0.54	12.59	+0.60
18	6 18.8	13.66	+0.76	+0.14	10.47	—0.17
31	5 22.8	240.94	+0.14	+0.03	11.70	—0.53
Nov. 4	6 50.8	33.46	+0.56	+0.16	16.17	—0.38
6	6 37.8	234.59	+0.19	+0.04	13.56	—0.56
7	6 28.7	212.43	—1.37	—0.38	15.91	+0.04
12	6 25.5	231.23	+0.13	+0.03	14.59	—0.55
13	6 7.5	209.90	+1.00	+0.27	15.19	0.00
1878.						
Nov. 1	5 17.8	197.23	+1.43	+0.29	11.44	+0.09
4	7 30.8	8.83	+4.13	+0.69	9.63	—0.72
LASSELL AND MARTH'S OBSERVATIONS.						
1863.						
Sept. 10	3 20.1	212.82	—2.01	—0.50	14.28	—0.06
11	2 34.4	210.89	—1.26	—0.33	15.11	—1.38
19	2 23.8	32.42	—1.08	—0.29	15.51	+0.35
Oct. 30	23 15.7	31.37	—2.74	—0.76	15.82	—0.55
Dec. 10	21 22.4	31.63	—3.51	—1.01	16.42	—0.29

Date.	Wash. M. T.	Computed p	$\Delta^\circ p$	$\Delta'' p$	Computed s	Δs
1864.	h. m.	°	°	"	"	"
Aug. 2	4 42.7	30.35	—2.64	—0.70	15.20	—0.17
13	4 39.7	33.25	—3.63	—0.99	15.57	—0.37
30	3 29.1	38.31	—6.36	—0.83	7.48	—0.29
31	3 16.7	32.05	—2.93	—0.86	16.86	—1.06
Sept. 8	3 5.7	216.01	—1.70	—0.30	10.04	+0.54
9	2 59.6	211.48	—1.75	—0.51	16.79	—0.53
12	3 7.3	31.26	—2.62	—0.76	16.61	—0.28
15	1 45.6	211.25	—3.50	—1.01	16.60	—0.87
15	3 0.1	211.08	—2.11	—0.60	16.39	—0.74
23	2 14.2	33.99	—6.20	—1.46	13.48	+0.36
24	2 14.9	30.59	—2.60	—0.70	15.51	—0.68
30	1 8.6	30.36	—2.87	—0.75	14.92	—0.37
Oct. 3	1 38.7	210.06	—0.93	—0.23	14.16	—0.64
5	0 59.4	33.09	—4.76	—1.27	15.27	—0.08
30	23 26.4	215.32	—2.78	—0.44	9.05	—1.19
31	23 22.9	211.64	—1.71	—0.50	16.83	—0.61
Nov. 6	22 56.9	211.40	—0.97	—0.28	16.58	—0.09

During the years 1875 to 1878 the residuals Δp are in good agreement with the assumed orbit, both in the case of Professor HOLDEN'S observations and of my own. But at a greater distance from the epoch and after 1881 the constancy in the sign of Δp, and a slight tendency to increase with the time, indicate a small error in the assumed periodic time.

Denoting the eccentricity by e and the angle which determines the position of the line of apsides by ω these quantities have been introduced into the equations of condition by means of the expressions

$$\xi = ae \cos \omega; \qquad \eta = ae \sin \omega,$$

The equation of condition for the distances is of the form,

$$P.\Delta N + Q.\Delta J + R.\Delta u + T.\xi + U\eta + V.\Delta a + n = o,$$

with a similar one for the angles with the omission of $V.\Delta a$. The following table contains these equations. The Greenwich mean time is given in the second column, and then follow the logarithms of the differential coefficients and the logarithm of n, the difference between the computed and observed position. In the last column are given the residuals found by substituting in the equation the values of ΔN, ΔJ, Δu, ξ, η, and Δa, given by the least square solution. These computations have been made by Lieut. W. H. ALLEN and Ensign J. A. HOOGEWERFF, U. S. Navy.

Equations of Condition.

Date.	Greenwich M. T.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.
1875.									″
Sept. 6	. . . . .	9. 3977	9. 4385*n*	9. 8149*n*	9. 9723	0. 0691	9. 8702	8. 9031	+ 0. 066
	6. 5593	9. 7156	9. 9408	9. 6289*n*	9. 8978	9. 4986	. . . .	8. 6021*n*	— 0. 125
8	. . . . .	9. 1302*n*	8. 6968	9. 2924	9. 4697*n*	0. 0188*n*	0. 0050	9. 4771*n*	+ 0. 001
	8. 5393	9. 5305*n*	9. 8954	9. 4942*n*	9. 6978*n*	9. 5743	. . . .	8. 8451	+ 0. 055
9	. . . . .	9. 3781	9. 4734*n*	9. 8331*n*	9. 9702*n*	0. 0847*n*	9. 8471	9. 3979*n*	+ 0. 110
	9. 5531	9. 7576	9. 9251	9. 6522*n*	9. 9099*n*	9. 5817*n*	. . . .	9. 6335*n*	— 0. 253
20	. . . . .	8. 4302	8. 0879*n*	8. 6375*n*	9. 6718*n*	9. 9672*n*	0. 0153	9. 5682*n*	— 0. 031
	20. 5359	9. 1940*n*	9. 9629	9. 4848*n*	9. 7527*n*	9. 3607	. . . .	8. 6990	+ 0. 073
29	. . . . .	9. 1085	8. 8382*n*	9. 3480*n*	9. 7989	9. 9592	0. 0056	9. 0414	+ 0. 203
	29. 5335	7. 6416	9. 9883	9. 4944*n*	9. 7875	9. 0725*n*	. . . .	9. 5051*n*	— 0. 420
Oct. 2	. . . . .	9. 1529	8. 8935*n*	9. 3985*n*	9. 8156*n*	9. 9610*n*	0. 0028	9. 6990*n*	— 0. 133
	2. 5010	8. 4900	9. 9907	9. 4967*n*	9. 7921*n*	8. 9987	. . . .	9. 0000*n*	— 0. 041
Nov. 27	. . . . .	9. 1588	8. 8873*n*	9. 4117*n*	9. 8068	9. 9665	0. 0004	8. 9031	+ 0. 169
	27. 3594	8. 6832	9. 9929	9. 4761*n*	9. 7734	8. 8882*n*	. . . .	9. 7076*n*	— 0. 604
30	. . . . .	9. 2532	9. 0133*n*	9. 5231*n*	9. 8508*n*	9. 9752*n*	9. 9889	9. 6902*n*	— 0. 118
	30. 3780	9. 0923	9. 9948	9. 4854*n*	9. 7860*n*	8. 4295	. . . .	9. 3424*n*	— 0. 146
Dec. 2	. . . . .	9. 6351*n*	9. 0044	9. 7399	9. 2207	0. 1405	9. 9317	9. 2041*n*	— 0. 115
	2. 3946	9. 7224*n*	9. 7006	9. 5413*n*	9. 5543	9. 7753*n*	. . . .	9. 5798*n*	— 0. 478
15	. . . . .	9. 3978	9. 2746*n*	9. 7370*n*	9. 9409	0. 0309	9. 9296	9. 3617*n*	— 0. 205
	15. 3235	9. 5629	9. 9754	9. 5354*n*	9. 8252	9. 1878	. . . .	9. 4624*n*	— 0. 368
17	17. 4206	9. 5662*n*	9. 8866	9. 4670*n*	9. 6612*n*	9. 5626	. . . .	9. 0000	+ 0. 077
20	. . . . .	9. 3447*n*	8. 8507	9. 4999	9. 2729	0. 0584	9. 9875	9. 3979*n*	— 0. 150
	20. 2967	9. 6090*n*	9. 8607	9. 4741*n*	9. 6437	9. 6036*n*	. . . .	8. 9031*n*	— 0. 187
1876.									
Jan. 3	. . . . .	9. 8531*n*	8. 8067	9. 8642	9. 5359*n*	0. 1875*n*	9. 7715	8. 0000	+ 0. 197
	3. 3649	9. 7001*n*	9. 1673	9. 6819*n*	9. 1969*n*	9. 9770	. . . .	9. 7559*n*	— 0. 677
4	. . . . .	8. 3157	7. 9504*n*	8. 5293*n*	9. 6254*n*	9. 9677*n*	0. 0075	9. 1761*n*	+ 0. 178
	4. 3432	9. 1682*n*	9. 9621	9. 4453*n*	9. 7175*n*	9. 2936	. . . .	8. 6990*n*	— 0. 029
7	. . . . .	8. 8202	8. 4890*n*	9. 0475*n*	9. 6909	9. 9591	0. 0042	8. 4771	+ 0. 136
	7. 3596	8. 9053*n*	9. 9730	9. 4470*n*	9. 7311	9. 1851*n*	. . . .	9. 5315	+ 0. 243
10	. . . . .	8. 8917	8. 5673*n*	9. 1233*n*	9. 7074*n*	9. 9572*n*	0. 0023	9. 8865*n*	— 0. 429
	10. 3197	8. 7882*n*	9. 9749	9. 4475*n*	9. 7343*n*	9. 1488	. . . .	9. 5185	+ 0. 366
13	. . . . .	9. 0479	8. 7475*n*	9. 2913*n*	9. 7540	9. 9557	9. 9966	9. 4314*n*	— 0. 174
	13. 3222	7. 6188*n*	9. 9803	9. 4514*n*	9. 7449	9. 0187*n*	. . . .	9. 1139*n*	— 0. 222
24	. . . . .	9. 5804*n*	8. 9792	9. 6973	9. 1674	0. 1161	9. 9335	9. 3802*n*	— 0. 183
	24. 3406	9. 6988*n*	9. 7301	9. 5094*n*	9. 5615	9. 7273*n*	. . . .	9. 9395	+ 0. 771
25	. . . . .	9. 3307	9. 1344*n*	9. 6294*n*	9. 8886	9. 9862	9. 9546	9. 3010*n*	— 0. 147
	25. 3280	9. 3610	9. 9799	9. 4878*n*	9. 7873	8. 7105	. . . .	9. 6335	+ 0. 349
28	. . . . .	9. 3544	9. 1800*n*	9. 6653*n*	9. 9044*n*	9. 9960*n*	9. 9434	9. 6628*n*	— 0. 090
	28. 3110	9. 4338	9. 9755	9. 4980*n*	9. 7952*n*	8. 9158	. . . .	9. 0792*n*	— 0. 020
31	. . . . .	9. 3817	9. 2447*n*	9. 7142*n*	9. 9251	0. 0144	9. 9239	9. 1139*n*	— 0. 102
	31. 3197	9. 5286	9. 9670	9. 5164*n*	9. 8081	9. 1292	. . . .	9. 5563	+ 0. 284
1877.									
Jan. 9	. . . . .	9. 3774	9. 4559*n*	9. 8241*n*	9. 9634*n*	0. 0765*n*	9. 8444	9. 3802*n*	+ 0. 116
	9. 3290	9. 7441	9. 9214	9. 6369*n*	9. 8961*n*	9. 5594*n*	. . . .	9. 3802	+ 0. 411
25	. . . . .	9. 8061	8. 8865	9. 8324	9. 5256*n*	0. 1683*n*	9. 8192	9. 6628*n*	— 0. 256

Equations of Condition—Continued.

Date.	Greenwich M. T.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.
1877.									″
Jan. 25	25. 2997	9. 7065*n*	9. 3078	9. 6546*n*	9. 3093*n*	9. 9442	. . . .	8. 7782*n*	— 0. 158
26	. . . . .	8. 9456	8. 6471*n*	9. 1702*n*	9. 7405*n*	9. 9441*n*	9. 9974	9. 3010*n*	+ 0. 143
	26. 3037	8. 7834*n*	9. 9665	9. 4758*n*	9. 7608*n*	9. 2026	. . . .	8. 4771	+ 0. 070
28	. . . . .	9. 7694*n*	8. 9422	9. 8138	9. 4693	0. 1615	9. 8469	9. 1761	+ 0. 124
	28. 3007	9. 7165*n*	9. 4225	9. 6256*n*	9. 3893	9. 9075*n*	. . . .	9. 1761	+ 0. 081
29	. . . . .	9. 0752	8. 8015*n*	9. 3113*n*	9. 7796	9. 9427	9. 9917	9. 5911	+ 0. 481
	29. 3013	7. 9141*n*	9. 9720	9. 4805*n*	9. 7722	9. 0933*n*	. . . .	9. 3424	+ 0. 123
Feb. 1	. . . . .	9. 1720	8. 9232*n*	9. 4212*n*	9. 8171*n*	9. 9450*n*	9. 9839	9. 4314*n*	+ 0. 086
	1. 3024	8. 6853	9. 9755	9. 4870*n*	9. 7838*n*	8. 9310	. . . .	9. 1461	+ 0. 201
3	. . . . .	9. 6689*n*	8. 9907	9. 7500	9. 3525	0. 1336	9. 9019	9. 3424	+ 0. 242
	3. 3257	9. 7137*n*	9. 6097	9. 5682*n*	9. 5103	9. 8230*n*	. . . .	9. 7853	+ 0. 522
6	. . . . .	9. 6354*n*	8. 9897	9. 7255	9. 3293*n*	0. 1226*n*	9. 9147	9. 5051*n*	— 0. 084
	6. 3068	9. 7066*n*	9. 6495	9. 5546*n*	9. 5351*n*	9. 7992	. . . .	8. 9031	+ 0. 013
1881.									
Sept. 20	. . . . .	9. 1495	8. 9411*n*	9. 3167*n*	9. 8920*n*	9. 8800*n*	0. 0025	9. 4314*n*	— 0. 214
	20. 5984	8. 9579*n*	9. 9347	9. 6332*n*	9. 8970*n*	9. 5328	. . . .	9. 9345	+ 0. 226
22	. . . . .	9. 7688*n*	8. 7009	9. 7481	9. 7954	0. 0873	9. 9000	9. 4771*n*	— 0. 063
	22. 5847	9. 6549*n*	9. 1022	9. 7362*n*	9. 1966	0. 0326*n*	. . . .	9. 8751	+ 0. 199
23	. . . . .	9. 2118	9. 0253*n*	9. 3888*n*	9. 9089	9. 8803	9. 9987	8. 4771	+ 0. 098
	23. 5800	8. 7320*n*	9. 9426	9. 6378*n*	9. 9097	9. 4878*n*	. . . .	9. 9085	+ 0. 096
24	. . . . .	9. 3198*n*	9. 7989*n*	9. 6332*n*	9. 5661	9. 9590	9. 6763	9. 4771*n*	— 0. 226
	24. 5562	9. 8687	9. 5748	9. 9603*n*	0. 1514	0. 0607	. . . .	9. 6812	+ 0. 011
29	. . . . .	9. 3230	9. 1981*n*	9. 5276*n*	9. 9477	9. 8889	9. 9846	9. 0792*n*	— 0. 070
	29. 5679	8. 6557	9. 9566	9. 6531*n*	9. 9411	9. 3359*n*	. . . .	9. 7559	— 0. 136
Oct. 1	. . . . .	9. 6704*n*	8. 8926	9. 6847	9. 7410*n*	0. 0734*n*	9. 9431	8. 0000	+ 0. 159
	1. 5462	9. 6804*n*	9. 4310	9. 6948*n*	9. 4679*n*	9. 9758	. . . .	9. 7160	+ 0. 029
20	. . . . .	9. 4165	9. 5289*n*	9. 7498*n*	0. 0086*n*	9. 9710*n*	9. 9070	9. 3617*n*	— 0. 241
	20. 4762	9. 5723	9. 9464	9. 7316*n*	0. 0295*n*	9. 1085*n*	. . . .	9. 7076	— 0. 076
21	. . . . .	9. 9415*n*	9. 4314*n*	9. 6924	9. 9079	9. 8745	9. 6953	9. 8692*n*	— 0. 529
	21. 4996	8. 1703	9. 2921*n*	9. 9433*n*	9. 7882*n*	0. 2159*n*	. . . .	9. 3802	— 0. 212
22	. . . . .	9. 1882*n*	8. 7445	9. 2770	9. 7210	9. 9790	0. 0088	8. 3010	+ 0. 185
	22. 4990	9. 5891*n*	9. 7924	9. 6298*n*	9. 7455	9. 8102*n*	. . . .	9. 8129	— 0. 043
25	. . . . .	9. 0815*n*	8. 6626	9. 1783	9. 7321*n*	9. 9667*n*	0. 0123	9. 5441*n*	— 0. 245
	25. 4815	9. 5639*n*	9. 8161	9. 6260*n*	9. 7643*n*	9. 7880	. . . .	9. 8062	+ 0. 033
26	. . . . .	9. 3679	9. 6080*n*	9. 7835*n*	0. 0004*n*	0. 0033*n*	9. 8669	8. 7782	+ 0. 037
	26. 4697	9. 6872	9. 9205	9. 7713*n*	0. 0592*n*	9. 4554*n*	. . . .	9. 8261	+ 0. 107
27	. . . . .	9. 9276*n*	9. 1669*n*	9. 7709	9. 9123	0. 0091	9. 7514	9. 5185*n*	— 0. 096
	27. 4968	9. 2470*n*	9. 2018*n*	9. 8866*n*	9. 5433*n*	0. 1761*n*	. . . .	9. 6435	— 0. 026
Nov. 13	. . . . .	8. 8684*n*	9. 7745*n*	9. 7320*n*	9. 7669*n*	0. 0181*n*	9. 7114	9. 2788	+ 0. 169
	13. 4472	9. 8718	9. 7048	9. 9229*n*	0. 1361*n*	9. 9849*n*	. . . .	9. 7853	+ 0. 113
15	. . . . .	9. 2268	9. 0464*n*	9. 4149*n*	9. 9105	9. 8935	0. 0010	8. 6990	+ 0. 116
	15. 5056	8. 5254*n*	9. 9538	9. 6327*n*	9. 9101	9. 4397*n*	. . . .	9. 9542	+ 0. 185
16	. . . . .	9. 2779*n*	9. 7912*n*	9. 6670*n*	9. 6165	9. 9817	9. 6784	9. 0414*n*	— 0. 054
	16. 4556	9. 8787	9. 6054	9. 9549*n*	0. 1433	0. 0594	. . . .	9. 7853	+ 0. 140
20	. . . . .	9. 6739*n*	8. 9147	9. 6944	9. 7193	0. 0845	9. 9435	9. 3979*n*	— 0. 020

Equations of Condition—Continued.

Date.	Greenwich M. T.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.
1877.									″
Nov. 20	20. 5160	9. 6874*n*	9. 4595	9. 6884*n*	9. 4852	9. 9670*n*	. . . .	9. 6628	— 0. 144
26	. . . . .	9. 6395*n*	8. 9317	9. 6696	9. 7035	0. 0768	9. 9532	9. 4150*n*	— 0. 035
	26. 4366	9. 6869*n*	9. 5189	9. 6762*n*	9. 5297	9. 9476*n*	. . . .	0. 0645	+ 0. 545
Dec. 8	. . . . .	9. 3645*n*	8. 8637	9. 4429	9. 6787	0. 0131	9. 9962	8. 4771*n*	+ 0. 156
	8. 4355	9. 6319*n*	9. 7443	9. 6281*n*	9. 6976	9. 8374*n*	. . . .	9. 8195	— 0. 013
15	. . . . .	9. 3891	9. 5634*n*	9. 7748*n*	0. 0008	9. 9974	9. 8797	8. 3010*n*	— 0. 021
	15. 3957	9. 6512	9. 9320	9. 7409*n*	0. 0318	9. 3700	. . . .	9. 7782	— 0. 008
17	. . . . .	9. 0793*n*	8. 6638	9. 1841	9. 7087*n*	9. 9703*n*	0. 0086	9. 1139*n*	— 0. 026
	17. 3928	9. 5567*n*	9. 8239	9. 6110*n*	9. 7586*n*	9. 7643	. . . .	9. 6628	— 0. 144
18	. . . . .	9. 3741	9. 5815*n*	9. 7820*n*	9. 9977*n*	0. 0048*n*	9. 8687	8. 8451	+ 0. 038
	18. 3630	9. 6765	9. 9244	9. 7503*n*	0. 0381*n*	9. 4368*n*	. . . .	9. 7709	+ 0. 035
24	. . . . .	9. 1804	9. 6754*n*	9. 7987*n*	9. 9512*n*	0. 0362*n*	9. 7996	9. 2304	+ 0. 126
	24. 4016	9. 7912	9. 8614	9. 8164*n*	0. 0783*n*	9. 7260*n*	. . . .	9. 7243	+ 0. 010
1882.									
Jan. 2	. . . . .	8. 5917	9. 7277*n*	9. 7771*n*	9. 8685	0. 0378	9. 7410	8. 7782*n*	— 0. 050
	2. 3349	9. 8462	9. 7830	9. 8699*n*	0. 1031	9. 8850	. . . .	9. 6232	— 0. 086
3	. . . . .	9. 8208*n*	9. 4864	9. 7843	9. 7961*n*	0. 1032*n*	9. 8573	8. 4771	+ 0. 201
	3. 3660	9. 6312*n*	8. 8127	9. 7529*n*	8. 9348*n*	0. 0527	. . . .	9. 7924	+ 0. 202
7	. . . . .	9. 2130	9. 0287*n*	9. 4070*n*	9. 8963	9. 8925	9. 9932	9. 4771*n*	— 0. 236
	7. 4114	8. 4426*n*	9. 9502	9. 6149*n*	9. 8945	9. 4021*n*	. . . .	9. 5563	— 0. 338
9	. . . . .	9. 7137*n*	8. 8783	9. 7245	9. 7159*n*	0. 0929*n*	9. 9161	9. 5682*n*	— 0. 215
	9. 4183	9. 6801*n*	9. 3681	9. 6908*n*	9. 4073*n*	9. 9766	. . . .	9. 6435	— 0. 033
19	. . . . .	9. 3826	9. 3304*n*	9. 6404*n*	9. 9682	9. 9213	9. 9505	8. 9031	+ 0. 104
	19. 3961	9. 2678	9. 9593	9. 6510*n*	9. 9511	8. 7606*n*	. . . .	9. 3010	— 0. 460
Feb. 2	. . . . .	9. 2580*n*	8. 7945	9. 3497	9. 6679*n*	9. 9868*n*	9. 9905	9. 4472*n*	— 0. 168
	2. 3292	9. 5950*n*	9. 7722	9. 6040*n*	9. 7112*n*	9. 7906	. . . .	9. 7924	+ 0. 045
3	. . . . .	9. 3902	9. 5271*n*	9. 7563*n*	9. 9915*n*	9. 9803*n*	9. 8790	9. 1461*n*	— 0. 168
	3. 3236	9. 6120	9. 9289	9. 7151*n*	0. 0085*n*	9. 2852*n*	. . . .	9. 1761	— 0. 402
6	. . . . .	9. 3654	9. 5647*n*	9. 7713*n*	9. 9867	9. 9944	9. 8580	8. 6021*n*	— 0. 044
	6. 3175	9. 6634	9. 9145	9. 7347*n*	0. 0224	9. 4224	. . . .	9. 6812	— 0. 102
8	. . . . .	8. 9327*n*	8. 5407	9. 0468	9. 7081*n*	9. 9473*n*	9. 9990	9. 1761	+ 0. 246
	8. 3313	9. 5141*n*	9. 8336	9. 5927*n*	9. 7610*n*	9. 7238	. . . .	9. 6128	— 0. 184
15	. . . . .	9. 0839	9. 6789*n*	9. 7848*n*	9. 9218*n*	0. 0275*n*	9. 7708	9. 0000	+ 0. 055
	15. 3283	9. 7977	9. 8308	9. 8182*n*	0. 0726*n*	9. 7621*n*	. . . .	9. 1761	— 0. 348
Oct. 4	. . . . .	9. 0390	8. 7956*n*	9. 1815*n*	9. 8821	9. 8727	0. 0096	8. 3010	+ 0. 108
	4. 5655	9. 1898*n*	9. 9130	9. 6456*n*	9. 8881	9. 6331*n*	. . . .	9. 8388	— 0. 035
5	. . . . .	8. 4314*n*	9. 7849*n*	9. 7221*n*	9. 8023	0. 0013	9. 7360	8. 6990*n*	+ 0. 015
	5. 5360	9. 8470	9. 7280	9. 9194*n*	0. 1562	9. 9243	. . . .	9. 8388	+ 0. 167
6	. . . . .	9. 8152*n*	8. 0697	9. 7632	9. 8584*n*	0. 0720*n*	9. 8781	8. 6990*n*	+ 0. 125
	6. 5361	9. 6074*n*	8. 3841	9. 7773*n*	8. 5350*n*	0. 0781	. . . .	9. 7076	+ 0. 101
7	. . . . .	9. 1060	8. 8810*n*	9. 2556*n*	9. 8943*n*	9. 8705*n*	0. 0076	8. 9542	+ 0. 154
	7. 5366	9. 1110*n*	9. 9212	9. 6480*n*	9. 8986*n*	9. 6071	. . . .	9. 8195	+ 0. 022
8	. . . . .	9. 2214*n*	9. 8097*n*	9. 6429*n*	9. 6229*n*	9. 9633*n*	9. 6975	8. 7782*n*	— 0. 029
	8. 5647	9. 8617	9. 6083	9. 9581*n*	0. 1676*n*	0. 0273*n*	. . . .	9. 8513	+ 0. 215
9	. . . . .	9. 7799*n*	8. 5571	9. 7460	9. 8335	0. 0746	9. 9005	9. 1461*n*	+ 0. 094

Equations of Condition—Continued.

Date.	Greenwich M. T.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.
1882.									″
Oct. 9	9.5401	9.6387*n*	8.9321	9.7553*n*	9.0503	0.0542*n*	. . . .	9.8195	+ 0.118
18	. . . . .	9.6720*n*	8.8600	9.6770	9.7754*n*	0.0622*n*	9.9471	9.1461*n*	+ 0.011
	18.5183	9.6746*n*	9.3875	9.7092*n*	9.4409*n*	9.9938	. . . .	9.7709	+ 0.104
Dec. 28	. . . . .	9.1811*n*	8.7339	9.2667	9.7263*n*	9.9703*n*	0.0041	9.4314*n*	— 0.161
	28.4423	9.5857*n*	9.7818	9.6295*n*	9.7404*n*	9.8135	. . . .	9.7076	— 0.080
31	. . . . .	9.3042*n*	8.8170	9.3790	9.7124	9.9831	9.9973	9.3010	+ 0.373
	31.3189	9.6156*n*	9.7436	9.6346*n*	9.7091	9.8413*n*	. . . .	9.9395	+ 0.198
1883.									
Jan. 12	. . . . .	8.1795*n*	7.8391	8.2972	9.7819	9.9161	0.0094	9.2041*n*	— 0.177
	12.3189	9.4440*n*	9.8641	9.6161*n*	9.8106	9.7113*n*	. . . .	9.7993	— 0.305
14	. . . . .	9.8682*n*	8.5569*n*	9.7839	9.8701*n*	0.0662*n*	9.8159	9.5051*n*	— 0.134
	14.3483	9.5243*n*	8.7626*n*	9.8083*n*	8.9730	0.1081	. . . .	9.7559	— 0.007
15	. . . . .	8.4203	8.1139*n*	8.5515*n*	9.8060*n*	9.9013*n*	0.0083	8.8451	+ 0.078
	15.3183	9.3729*n*	9.8845	9.6154*n*	9.8310*n*	9.6725	. . . .	9.8129	— 0.013
24	. . . . .	9.1243	8.9095*n*	9.2915*n*	9.8796	9.8753	9.9966	9.4472	+ 0.164
	24.3135	8.9856*n*	9.9274	9.6224*n*	9.8849	9.5286*n*	. . . .	0.1673	+ 0.561
Oct. 15	. . . . .	8.9590	8.6936*n*	9.0826*n*	9.8839	9.8634	0.0128	9.3010*n*	— 0.290
	15.6208	9.2880*n*	9.8928	9.6594*n*	9.8833	9.6980*n*	. . . .	9.9777	— 0.020
24	. . . . .	9.1643	8.9535*n*	9.3080*n*	9.9167*n*	9.8561*n*	0.0068	8.3010	+ 0.011
	24.5333	9.0752*n*	9.9187	9.6657*n*	9.9159*n*	9.6264	. . . .	9.9823	+ 0.298
29	. . . . .	9.7214*n*	8.7256	9.7021	9.8277*n*	0.0562*n*	9.9327	8.0000	+ 0.159
	29.5446	9.6568*n*	9.1780	9.7395*n*	9.2715*n*	0.0341	. . . .	9.6812	— 0.144
30	. . . . .	9.2737	9.1105*n*	9.4368*n*	9.9441*n*	9.8566*n*	9.9980	9.2041	+ 0.137
	30.4958	8.6742*n*	9.9351	9.6741*n*	9.9424*n*	9.5477	. . . .	0.0414	+ 0.451
31	. . . . .	9.5716*n*	9.8281*n*	9.3966*n*	8.8131*n*	9.8329*n*	9.6703	9.3222*n*	— 0.341
	31.5287	9.8351	9.3211	0.0016*n*	0.1781*n*	0.1225*n*	. . . .	9.6628	— 0.049
Nov. 1	. . . . .	9.7146*n*	8.7461	9.6981	9.8236	0.0562	9.9356	9.1139	+ 0.275
	1.4944	9.6597*n*	9.2087	9.7364*n*	9.2976	0.0301*n*	. . . .	9.9031	— 0.057
4	. . . . .	9.6864*n*	8.8022	9.6787	9.8104*n*	0.0521*n*	9.9456	9.3802*n*	— 0.101
	4.4726	9.6662*n*	9.3022	9.7260*n*	9.3768*n*	0.0158	. . . .	9.7709	— 0.043
5	. . . . .	9.3607	9.2579*n*	9.5503*n*	9.9741*n*	9.8670*n*	9.9831	8.6990	+ 0.009
	5.4769	8.6644	9.9481	9.6884*n*	9.9732*n*	9.4179	. . . .	9.8921	+ 0.151
28	. . . . .	8.9934*n*	8.5815	9.0746	9.7871*n*	9.9367*n*	0.0139	8.3010	+ 0.067
	28.4504	9.5571*n*	9.7956	9.6518*n*	9.7760*n*	9.8257	. . . .	9.6435	— 0.244
29	. . . . .	9.2526	9.7006*n*	9.7752*n*	9.9712*n*	9.9992*n*	9.8272	9.2304	+ 0.026
	29.5231	9.7489	9.8717	9.8381*n*	0.1187*n*	9.6158*n*	. . . .	9.5682	— 0.124
30	. . . . .	9.9207*n*	9.3004*n*	9.7409	9.9431	9.9444	9.7596	8.9031*n*	+ 0.026
	30.4244	9.0562*n*	9.2941*n*	9.9051*n*	9.6806*n*	0.1859*n*	. . . .	0.0934	+ 0.545
Dec. 1	. . . . .	8.3307*n*	7.9788	8.4282	9.8163	9.9080	0.0169	9.1139*n*	— 0.154
	1.4921	9.4794*n*	9.8447	9.6475*n*	9.8199	9.7736*n*	. . . .	9.9685	— 0.036
3	. . . . .	9.9058*n*	9.1338*n*	9.7644	9.9358*n*	9.9971*n*	9.7896	9.4314*n*	— 0.062
	3.4331	9.3116*n*	9.2120*n*	9.8740*n*	9.5287	0.1636	. . . .	9.8388	+ 0.113
5	5.4878	9.7998	9.8238	9.8730*n*	0.1386*n*	9.7625*n*	. . . .	8.9031	— 0.400
6	. . . . .	9.8655*n*	8.6885*n*	9.7752	9.9058	0.0485	9.8396	9.0414*n*	+ 0.042
	6.4927	9.5134*n*	8.8944*n*	9.8229*n*	9.1163*n*	0.1218*n*	. . . .	0.0334	+ 0.317

Equations of Condition—Continued.

Date.	Greenwich M. T.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.
									″
1883. Dec. 28	. . . . .	9. 3214	9. 1930*n*	9. 5086*n*	9. 9527*n*	9. 8677*n*	9. 9847	8. 6990*n*	— 0. 091
	28. 3484	8. 2494	9. 9448	9. 6673*n*	9. 9493*n*	9. 4297	. . . .	9. 5911	— 0. 236
1884. Jan. 5	. . . . .	9. 5708*n*	8. 8914	9. 5962	9. 7510	0. 0323	9. 9660	8. 0000*n*	+ 0. 115
	5. 3267	9. 6666*n*	9. 5296	9. 6816*n*	9. 5543	9. 9501*n*	. . . .	9. 7709	— 0. 303
17	. . . . .	9. 2297*n*	8. 7564	9. 2998	9. 7469	9. 9622	9. 9984	9. 0000	+ 0. 153
	17. 3244	9. 5981*n*	9. 7421	9. 6428*n*	9. 7216	9. 8471*n*	. . . .	9. 8692	— 0. 191
20	. . . . .	8. 8022*n*	8. 4163	8. 8960	9. 7800*n*	9. 9201*n*	0. 0065	9. 2788*n*	— 0. 153
	20. 4004	9. 5150*n*	9. 8170	9. 6332*n*	9. 7857*n*	9. 7816	. . . .	9. 6812	— 0. 190
Jan. 21	. . . . .	9. 3597	9. 6229*n*	9. 7631*n*	9. 9934*n*	9. 9748*n*	9. 8567	9. 5911	+ 0. 258
	21. 3260	9. 6653	9. 9034	9. 7823*n*	0. 0738*n*	9. 3997*n*	. . . .	9. 6628	— 0. 041
23	. . . . .	8. 6969*n*	8. 3225	8. 7946	9. 7850	9. 9142	0. 0064	8. 9542*n*	— 0. 095
	23. 3571	9. 5000*n*	9. 8247	9. 6317*n*	9. 7925	9. 7713*n*	. . . .	0. 0043	+ 0. 070
26	. . . . .	7. 2263	6. 8385*n*	7. 3624*n*	9. 8095*n*	9. 8945*n*	0. 0066	9. 0414	+ 0. 131
	26. 3681	9. 4332*n*	9. 8539	9. 6298*n*	9. 8203*n*	9. 7313	. . . .	9. 8451	+ 0. 035
Feb. 1	. . . . .	8. 8392	8. 5605*n*	8. 9703*n*	9. 8472*n*	9. 8714*n*	0. 0028	9. 1139*n*	— 0. 126
	1. 3474	9. 2996*n*	9. 8865	9. 6305*n*	9. 8556*n*	9. 6663	. . . .	9. 7782	— 0. 055
PROFESSOR HOLDEN'S OBSERVATIONS.									
1874. Dec. 21	. . . . .	8. 6931	8. 3287*n*	8. 9252*n*	9. 6429	9. 9715	0. 0089	9. 3424*n*	+ 0. 184
	21. 3631	8. 9630*n*	9. 9791	9. 4168*n*	9. 7011	9. 1520*n*	. . . .	9. 8513	+ 0. 490
24	. . . . .	8. 8480	8. 4970*n*	9. 0862*n*	9. 6753*n*	9. 9687*n*	0. 0065	9. 1461	+ 0. 380
	24. 3392	8. 7670*n*	9. 9831	9. 4174*n*	9. 7063*n*	9. 0853	. . . .	9. 9294	+ 0. 646
1875. Jan. 5	. . . . .	9. 2654	8. 9989*n*	9. 5491*n*	9. 8372*n*	9. 9833*n*	9. 9764	9. 6721*n*	— 0. 284
	5. 3332	9. 2119	9. 9901	9. 4405*n*	9. 7414*n*	8. 0768*n*	. . . .	9. 7243	+ 0. 294
25	. . . . .	9. 0816*n*	8. 6245	9. 2703	9. 3253	0. 0138	9. 9937	9. 9345*n*	— 0. 422
	25. 3548	9. 4839*n*	9. 9139	9. 4140*n*	9. 6420	9. 4427*n*	. . . .	8. 7782*n*	— 0. 252
26	. . . . .	9. 3798	9. 4047*n*	9. 8455*n*	9. 9396	0. 1068	9. 8163	9. 5911*n*	— 0. 135
	26. 3832	9. 7830	9. 9004	9. 5910*n*	9. 8264	9. 6002	. . . .	9. 3617	+ 0. 019
Sept. 26	. . . . .	8. 9487	8. 6493*n*	9. 1736*n*	9. 7499*n*	9. 9587*n*	0. 0115	9. 3010	+ 0. 442
	26. 5195	8. 8068*n*	9. 9802	9. 4887*n*	9. 7735*n*	9. 2174	. . . .	9. 9542	+ 0. 694
Oct. 5	. . . . .	9. 2092	8. 9660*n*	9. 4639*n*	9. 8394	9. 9652	9. 9979	9. 8513*n*	— 0. 339
	5. 4824	8. 8519	9. 9934	9. 5012*n*	9. 7994	8. 8561*n*	. . . .	8. 4771	— 0. 209
13	. . . . .	9. 6271*n*	9. 0061	9. 7273	9. 2952*n*	0. 1351*n*	9. 9411	8. 3010	+ 0. 280
	13. 4416	9. 7189*n*	9. 7028	9. 5561*n*	9. 5697*n*	9. 7899	. . . .	9. 1139	+ 0. 070
16	. . . . .	9. 5203*n*	8. 9663	9. 6434	9. 2795	0. 1032	9. 9700	9. 6435*n*	+ 0. 042
	16. 4958	9. 6845*n*	9. 7851	9. 5267*n*	9. 6185	9. 7233*n*	. . . .	9. 3802*n*	— 0. 413
17	. . . . .	9. 4045	9. 3073*n*	9. 7443*n*	9. 9547	0. 0314	9. 9333	9. 1761*n*	+ 0. 165
	17. 5438	9. 5676	9. 9794	9. 5628*n*	9. 8536	9. 1936	. . . .	9. 2553	— 0. 061
19	. . . . .	9. 5114*n*	8. 9619	9. 6364	9. 2776*n*	0. 1010*n*	9. 9719	8. 6990	+ 0. 321
	19. 4438	9. 6813*n*	9. 7910	9. 5237*n*	9. 6210*n*	9. 7168	. . . .	8. 0000	— 0. 079
20	. . . . .	9. 4079	9. 3197*n*	9. 7539*n*	9. 9578*n*	0. 0366*n*	9. 9285	9. 3979*n*	— 0. 123
	20. 4993	9. 5866	9. 9771	9. 5669*n*	9. 8559*n*	9. 2326*n*	. . . .	9. 3222	— 0. 062

Equations of Condition—Continued.

Date.	Greenwich M. T.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.
1875.									″
Oct. 22	. . . . .	9.3878*n*	8.8886	9.5314	9.3222	0.0696	9.9911	9.9191*n*	— 0.358
	22.4862	9.6323*n*	9.8471	9.5035*n*	9.6547	9.6532*n*	. . . .	9.2553	— 0.005
25	. . . . .	9.3469*n*	8.8606	9.4958	9.3393*n*	0.0610*n*	9.9955	9.9031*n*	— 0.523
	25.4542	9.6152*n*	9.8610	9.4979*n*	9.6625*n*	9.6333	. . . .	9.8388	+ 0.572
29	. . . . .	9.4127	9.3986*n*	9.8084*n*	9.9708	0.0703	9.8898	9.4624*n*	+ 0.002
	29.4292	9.6954	9.9553	9.6021*n*	9.8749	9.4456	. . . .	9.3802	+ 0.005
31	. . . . .	9.1087*n*	8.6743	9.2793	9.4462*n*	0.0235*n*	0.0101	9.5911*n*	— 0.114
	31.4597	9.5192*n*	9.9112	9.4809*n*	9.6941*n*	9.5428	. . . .	9.3617	+ 0.084
Nov. 5	. . . . .	9.9388*n*	8.1721*n*	9.8621	9.7128*n*	0.1592*n*	9.6799	9.6128	+ 0.613
	5.4180	9.5548*n*	8.3285*n*	9.8086*n*	8.5246	0.1094	. . . .	8.9031	+ 0.123
6	. . . . .	8.9380*n*	8.5271	9.1191	9.4987*n*	0.0078*n*	0.0140	9.4150*n*	+ 0.014
	6.3972	9.4581*n*	9.9300	9.4742*n*	9.7060*n*	9.4933	. . . .	8.8451*n*	— 0.228
12	. . . . .	8.7137	8.3817*n*	8.9327*n*	9.6889*n*	9.9688*n*	0.0158	9.8261*n*	— 0.418
	12.4893	9.0498*n*	9.9765	9.4691*n*	9.7475*n*	9.2675	. . . .	9.6128	+ 0.212
15	. . . . .	8.6115	8.2688*n*	8.8272*n*	9.6728	9.9706	0.0161	9.8865*n*	— 0.358
	15.4107	9.1048*n*	9.9737	9.4673*n*	9.7430	9.2888*n*	. . . .	8.6990	— 0.174
17	. . . . .	9.8209*n*	8.9188	9.8546	9.4887*n*	0.1903*n*	9.8263	8.9542	+ 0.314
	17.4224	9.7285*n*	9.3506	9.6560*n*	9.3364*n*	9.9442	. . . .	8.6021*n*	— 0.038
22	. . . . .	8.9719*n*	9.6403*n*	9.8253*n*	9.7363	0.1097	9.6096	9.6435	+ 0.674
	22.4222	9.9366	9.6684	9.8698*n*	9.9776	0.0559	. . . .	9.0792	— 0.036
24	. . . . .	9.0990	8.8126*n*	9.3439*n*	9.7836*n*	9.9645*n*	0.0050	9.4771*n*	— 0.073
	24.3818	8.0768	9.9909	9.4732*n*	9.7678*n*	9.0061	. . . .	9.4150	+ 0.040
29	. . . . .	9.6954*n*	9.0096	9.7829	9.2775*n*	0.1598*n*	9.9068	9.1461	+ 0.387
	29.3767	9.7360*n*	9.6299	9.5682*n*	9.5135*n*	9.8223	. . . .	9.7993*n*	— 0.672
1876. Sept. 28	. . . . .	9.3248	9.5416*n*	9.8437*n*	9.9676	0.0914	9.8208	9.6532*n*	— 0.176
	28.5314	9.7964	9.9040	9.7075*n*	9.9557	9.6755	. . . .	9.5563	+ 0.136
Oct. 11	. . . . .	9.8292*n*	8.8571	9.8407	9.6043*n*	0.1737*n*	9.8344	9.7160*n*	— 0.288
	11.4846	9.7052*n*	9.2491	9.6927*n*	9.2801*n*	9.9854	. . . .	— ∞	+ 0.010
12	. . . . .	8.9663	8.6836*n*	9.1828*n*	9.7715*n*	9.9525*n*	0.0126	9.6532*n*	— 0.206
	12.4957	8.8648*n*	9.9761	9.5141*n*	9.7959*n*	9.2788	. . . .	— ∞	— 0.205
13	. . . . .	8.1747*n*	9.6637*n*	9.8313*n*	9.8198*n*	0.1055*n*	9.6741	9.5315*n*	— 0.302
	13.4805	9.9133	9.7423	9.8526*n*	0.0147*n*	9.9908*n*	. . . .	9.6128	+ 0.065
18	. . . . .	9.1408	8.8934*n*	9.3757*n*	9.8238*n*	9.9530*n*	0.0051	9.4914*n*	— 0.082
	18.4618	7.8526	9.9862	9.5201*n*	9.8124*n*	9.1189	. . . .	9.2553	— 0.040
27	. . . . .	9.3175	9.1402*n*	9.5919*n*	9.9037	9.9734	9.9809	9.4314*n*	+ 0.081
	27.4445	9.2186	9.9924	9.5415*n*	9.8424	8.1599*n*	. . . .	8.3010*n*	— 0.265
Nov. 1	. . . . .	9.5423*n*	8.9782	9.6511	9.3684	0.1031	9.9672	9.9777*n*	— 0.468
	1.4521	9.6901*n*	9.7555	9.5532*n*	9.6188	9.7646*n*	. . . .	9.1461	— 0.032
7	. . . . .	9.2637*n*	8.8064	9.4110	9.4471	0.0394	0.0026	9.2304*n*	+ 0.291
	7.5408	9.5854*n*	9.8699	9.5153*n*	9.6910	9.6372*n*	. . . .	9.4150	+ 0.065
Dec. 13	. . . . .	9.2846	9.0806*n*	9.5550*n*	9.8779	9.9682	9.9815	8.8451*n*	+ 0.283
	13.4425	9.1454	9.9894	9.5159*n*	9.8166	8.4108*n*	. . . .	8.3010	— 0.220
1877. Oct. 6	. . . . .	9.4012	9.4717*n*	9.7943*n*	9.9875*n*	0.0406*n*	9.8886	9.7782	+ 0.710
	6.5343	9.6722	9.9506	9.6654*n*	9.9478*n*	9.4233*n*	. . . .	9.7324	+ 0.250

Equations of Condition—Continued.

Date.	Greenwich M. T.	Log P	Log Q	Log R	Log T	Log U	Log V	Log *n*	Residual.
1864.									″
Sept. 12	. . . . .	9.0223	8.0270*n*	9.3068*n*	9.4255*n*	0.0274*n*	0.0088	9.4472*n*	+ 0.144
	12.3441	9.1651	0.0127	8.7428*n*	9.0399*n*	8.1663*n*	. . . .	9.8808*n*	— 0.058
15	. . . . .	9.0310	8.0269*n*	9.3154*n*	9.4298	0.0283	0.0087	9.9395*n*	— 0.222
	15.2874	9.1772	0.0126	8.7370*n*	9.0338	8.1767	. . . .	0.0043*n*	— 0.312
15	. . . . .	9.1329	8.1353*n*	9.4196*n*	9.5080	0.0372	0.0032	9.8692*n*	— 0.079
	15.3391	9.2990	0.0087	8.7425*n*	9.0353	8.3272	. . . .	9.7782*n*	+ 0.074
23	. . . . .	9.5480*n*	8.4711	9.7999	9.6165	0.1617*n*	9.9181	9.5563	+ 0.383
	23.3072	9.7358*n*	9.8958	8.8096*n*	8.9896*n*	8.9259	. . . .	0.1644*n*	— 0.644
24	. . . . .	9.3306	8.3248*n*	9.6234*n*	9.6570*n*	0.0744*n*	9.9791	9.8325*n*	— 0.226
	24.3077	9.5301	9.9889	8.7469*n*	9.0196*n*	8.5916*n*	. . . .	9.8451*n*	— 0.115
30	. . . . .	9.3985	8.3801*n*	9.6942*n*	9.7032*n*	0.0970*n*	9.9622	9.5682*n*	+ 0.086
	30.2617	9.6085	9.9737	8.7475*n*	9.0051*n*	8.6774*n*	. . . .	9.8751*n*	— 0.216
Oct. 3	. . . . .	9.4580	8.4405*n*	9.7577*n*	9.7408	0.1232	9.9395	9.8062*n*	+ 0.082
	3.2826	9.6779	9.9535	8.7643*n*	9.0017	8.7675*n*	. . . .	9.3617*n*	+ 0.255
5	. . . . .	9.3927*n*	8.3088	9.6550	9.5283	0.0997*n*	9.9723	8.9031*n*	+ 0.068
	5.2553	9.6019*n*	9.9593	8.7265*n*	8.9697*n*	8.7118	. . . .	0.1038*n*	— 0.433
31	. . . . .	9.7035*n*	8.5014	9.9405	9.5847*n*	0.2528	9.7452	0.0755*n*	— 0.991
	31.1907	9.8592*n*	9.7107	8.8796*n*	8.8771	9.1190*n*	. . . .	9.6435*n*	+ 0.232
Nov. 1	. . . . .	8.5190	7.3885*n*	8.7984*n*	9.0378	0.0152	0.0145	9.7853*n*	— 0.000
	1.1883	8.5490	0.0148	8.6075*n*	8.9084	7.1141	. . . .	9.6990*n*	+ 0.238
7	. . . . .	8.9626	7.8208*n*	9.2456*n*	9.3401	0.0233	0.0080	8.9542*n*	+ 0.549
	7.1702	9.1246	0.0104	8.5977*n*	8.8951	8.0057	. . . .	9.4472*n*	+ 0.413

In reducing these equations of condition to normal equations, double weight has been given to the equations depending on the distances. I have divided my own observations into three groups: those of 1875 and 1876; 1881 and 1882, and those of 1883 and 1884. Although Professor HOLDEN's observations extend over several years I have combined them in one group. The normal equations are as follows:

Normal Equations.

1875–'76.

$$
\begin{array}{rrrrrrrl}
+8.8470\,\Delta N & -1.3934\,\Delta J & -6.4454\,\Delta u & +0.3915\,\xi & -0.1593\,\eta & -0.9204\,\Delta a & -0.7078'' & =0 \\
-1.3934\,\Delta N & +20.2713\,\Delta J & -4.4559\,\Delta u & -0.4550\,\xi & +0.6184\,\eta & -2.4764\,\Delta a & +1.1070 & =0 \\
-6.4454\,\Delta N & -4.4559\,\Delta J & +14.4272\,\Delta u & -0.0840\,\xi & +0.6327\,\eta & -3.3496\,\Delta a & +1.0946 & =0 \\
+0.3915\,\Delta N & -0.4550\,\Delta J & -0.0840\,\Delta u & +28.7146\,\xi & +30.2349\,\eta & -0.5038\,\Delta a & +5.6024 & =0 \\
-0.1593\,\Delta N & +0.6184\,\Delta J & +0.6327\,\Delta u & +30.2349\,\xi & +74.0998\,\eta & +1.1988\,\Delta a & +7.8970 & =0 \\
-0.9204\,\Delta N & -2.4764\,\Delta J & -3.3496\,\Delta u & -0.5038\,\xi & +1.1988\,\eta & +45.1210\,\Delta a & -9.5094 & =0 \\
 & & & & & & nn = & +8.3820
\end{array}
$$

1881–'82.

$$
\begin{array}{rrrrrrrl}
+18.5843\,\Delta N & +1.5123\,\Delta J & -12.1678\,\Delta u & -1.8922\,\xi & -1.8930\,\eta & -7.7622\,\Delta a & +2.9893 & =0 \\
+1.5123\,\Delta N & +23.8055\,\Delta J & -3.5766\,\Delta u & +0.1418\,\xi & -0.1921\,\eta & -8.6148\,\Delta a & +13.7178 & =0 \\
-12.1678\,\Delta N & -3.5766\,\Delta J & +30.6869\,\Delta u & +2.2491\,\xi & +2.3337\,\eta & -1.9196\,\Delta a & -15.2663 & =0 \\
-1.8922\,\Delta N & +0.1418\,\Delta J & +2.2491\,\Delta u & +72.6006\,\xi & +61.6931\,\eta & +1.1654\,\Delta a & -1.3134 & =0 \\
-1.8930\,\Delta N & -0.1921\,\Delta J & +2.3337\,\Delta u & +61.6931\,\xi & +106.7505\,\eta & -0.6606\,\Delta a & -3.7593 & =0 \\
-7.7622\,\Delta N & -8.6148\,\Delta J & -1.9196\,\Delta u & +1.1654\,\xi & -0.6606\,\eta & +56.6294\,\Delta a & -6.3452 & =0 \\
 & & & & & & nn = & +18.7806
\end{array}
$$

1883–'84.

$$
\begin{array}{rrrrrrrl}
+11.0092\,\Delta N & -0.7876\,\Delta J & -5.2266\,\Delta u & -5.2201\,\xi & -2.6067\,\eta & -5.7328\,\Delta a & -1.6759 & =0 \\
-0.7876\,\Delta N & +12.6805\,\Delta J & -5.1747\,\Delta u & -2.9053\,\xi & +2.9935\,\eta & -3.1076\,\Delta a & +9.6847 & =0 \\
-5.2266\,\Delta N & -5.1747\,\Delta J & +15.4787\,\Delta u & +9.6153\,\xi & +5.6117\,\eta & +2.2564\,\Delta a & -11.9035 & =0 \\
-5.2201\,\Delta N & -2.9053\,\Delta J & +9.6153\,\Delta u & +43.9472\,\xi & +32.1071\,\eta & -8.2074\,\Delta a & -3.3609 & =0 \\
-2.6067\,\Delta N & +2.9935\,\Delta J & +5.6117\,\Delta u & +32.1071\,\xi & +60.2877\,\eta & -7.5748\,\Delta a & -2.5668 & =0 \\
-5.7328\,\Delta N & -3.1076\,\Delta J & +2.2564\,\Delta u & -8.2074\,\xi & -7.5748\,\eta & +42.3308\,\Delta a & -0.9216 & =0 \\
 & & & & & & nn = & +17.6676
\end{array}
$$

PROFESSOR HOLDEN'S OBSERVATIONS.

$$
\begin{array}{rrrrrrrl}
+16.2902\,\Delta N & -0.9023\,\Delta J & -11.8248\,\Delta u & +2.3006\,\xi & +4.2910\,\eta & -3.7268\,\Delta a & +3.5063 & =0 \\
-0.9023\,\Delta N & +29.7013\,\Delta J & -5.0938\,\Delta u & -0.3219\,\xi & -0.0830\,\eta & -4.7922\,\Delta a & +7.8116 & =0 \\
-11.8248\,\Delta N & -5.0938\,\Delta J & +27.0279\,\Delta u & -2.8481\,\xi & -6.7784\,\eta & -3.9574\,\Delta a & -3.7706 & =0 \\
+2.3006\,\Delta N & -0.3219\,\Delta J & -2.8481\,\Delta u & +49.0175\,\xi & +53.2056\,\eta & +0.9686\,\Delta a & -4.3549 & =0 \\
+4.2910\,\Delta N & -0.0830\,\Delta J & -6.7784\,\Delta u & +53.2056\,\xi & +125.2924\,\eta & -1.2888\,\Delta a & -8.8736 & =0 \\
-3.7268\,\Delta N & -4.7922\,\Delta J & -3.9574\,\Delta u & +0.9686\,\xi & -1.2888\,\eta & +66.6234\,\Delta a & -22.4420 & =0 \\
 & & & & & & nn = & +23.3728
\end{array}
$$

LASSELL AND MARTH'S OBSERVATIONS, MALTA.

$$
\begin{array}{rrrrrrrl}
+6.6667\,\Delta N & -0.2504\,\Delta J & -5.4691\,\Delta u & -0.0517\,\xi & +0.4147\,\eta & -0.3744\,\Delta a & -0.1231 & =0 \\
-0.2504\,\Delta N & +18.5065\,\Delta J & -0.5765\,\Delta u & -0.1408\,\xi & +0.0132\,\eta & -0.0146\,\Delta a & -13.4919 & =0 \\
-5.4691\,\Delta N & -0.5765\,\Delta J & +10.1581\,\Delta u & +0.2509\,\xi & -0.7487\,\eta & -0.0396\,\Delta a & +4.0071 & =0 \\
-0.0517\,\Delta N & -0.1408\,\Delta J & +0.2509\,\Delta u & +5.5966\,\xi & +1.6178\,\eta & +1.0176\,\Delta a & -0.3079 & =0 \\
+0.4147\,\Delta N & +0.0132\,\Delta J & -0.7487\,\Delta u & +1.6178\,\xi & +72.2359\,\eta & -4.5574\,\Delta a & -6.0841 & =0 \\
-0.3744\,\Delta N & -0.0146\,\Delta J & -0.0396\,\Delta u & +1.0176\,\xi & -4.5574\,\eta & +37.2120\,\Delta a & -16.8196 & =0 \\
 & & & & & & nn = & +29.9934
\end{array}
$$

Solving the normal equations we have the following results:

1875–1876.

ΔN	$= +0''.12377$	$\pm 0''.093812$	weight $= 5.14689$
ΔJ	$= -0.01561$	± 0.052590	" $= 16.37785$
Δu	$= +0.02596$	± 0.076585	" $= 7.72278$
ξ	$= -0.13592$	± 0.052716	" $= 16.29963$
η	$= -0.05440$	± 0.032829	" $= 42.02746$
Δa	$= +0.21428$	± 0.032901	" $= 41.84520$

$[nn.\ 6] = 5.0768$; probable error of an angle $= \pm 0''.2128$
$\Sigma.\, p\, v^2 = 5.0777$; probable error of a distance $= \pm 0.1505$

1881–1882.

ΔN	$= +0''.28881$	$\pm 0''.042885$	weight $= 12.39329$
ΔJ	$= -0.47349$	± 0.032280	" $= 21.87370$
Δu	$= +0.56183$	± 0.032791	" $= 21.19767$
ξ	$= -0.03165$	± 0.024868	" $= 36.85550$
η	$= +0.04611$	± 0.020498	" $= 54.24750$
Δa	$= +0.09982$	± 0.021822	" $= 47.86400$

$[nn.\ 6] = 3.8063$; probable error of an angle $= \pm 0''.1510$
$\Sigma.\, p\, v^2 = 3.8075$; probable error of a distance $= \pm 0.1068$

1883–1884.

ΔN	$= +0''.46716$	$\pm 0''.060766$	weight $= 7.54348$
ΔJ	$= -0.44633$	± 0.065532	" $= 6.48630$
Δu	$= +0.83638$	± 0.053545	" $= 9.71552$
ξ	$= -0.14106$	± 0.035876	" $= 21.64130$
η	$= +0.08157$	± 0.028503	" $= 34.28650$
Δa	$= -0.00506$	± 0.028265	" $= 34.86631$

$[nn.\ 6] = 2.8767$; probable error of an angle $= \pm 0''.1669$
$\Sigma.\, p\, v^2 = 2.8777$; probable error of a distance $= \pm 0.1180$

Professor Holden's Observations.

ΔN	$= -0''.06791$	$\pm 0''.085123$	weight $= 10.18952$
ΔJ	$= -0.18692$	± 0.052236	" $= 27.05844$
Δu	$= +0.14396$	± 0.067271	" $= 16.31482$
ξ	$= +0.002325$	± 0.052891	" $= 26.39218$
η	$= +0.08322$	± 0.033223	" $= 66.88967$
Δa	$= +0.32973$	± 0.034670	" $= 61.42514$

$[nn.\ 6] = 12.9833$; probable error of an angle $= \pm 0''.2717$
$\Sigma.\, p\, v^2 = 12.9840$; probable error of a distance $= \pm 0.1921$

Lassell and Marth's Observations.

$\Delta N = -0.39084'' \pm 0.119885''$	weight	=	8.20923
$\Delta J = +0.70660 \pm 0.080104$	"	=	18.38710
$\Delta u = -0.55434 \pm 0.144849$	"	=	5.62332
$\xi = -0.02180 \pm 0.146250$	"	=	5.51611
$\eta = +0.11022 \pm 0.040746$	"	=	71.06300
$\Delta a = +0.46184 \pm 0.056737$	"	=	36.65133

[*nn.* 6] = 9.8550; probable error of an angle = 0.3435''
$\Sigma. p v^2 = 9.8547$; probable error of a distance = 0.2429

Converting the above quantities into angular measure and computing the eccentricity and the angle ω, we have,

1875–1876.

$\Delta N =$	+	0.436°	± 0.3303°
$\Delta J =$	−	0.055	± 0.1851
$\Delta u =$	+	0.091	± 0.2696
$\omega =$		201.8	± 14.18
$e =$		0.008996	± 0.003099
$\Delta a =$	+	0.2143''	± 0.0329''

1881–1882.

$\Delta N =$	+	1.017°	± 0.1510°
$\Delta J =$	−	1.667	± 0.1136
$\Delta u =$	+	1.978	± 0.1154
$\omega =$		124.5	± 24.43
$e =$		0.003413	± 0.001357
$\Delta a =$	+	0.0998''	± 0.02182''

1883–1884.

ΔN	+	1.645°	± 0.2139°
$\Delta J =$	−	1.571	± 0.2307
$\Delta u =$	+	2.944	± 0.1885
$\omega =$		150.0	± 10.73
$e =$		0.010012	± 0.002100
$\Delta a =$	−	0.0051''	± 0.0283''

Professor Holden's Observations.

		°		°
ΔN	$=-$	0.239	$\pm$	0.2997
ΔJ	$=-$	0.658	$\pm$	0.1839
Δu	$=+$	0.507	$\pm$	0.2368
ω	$=$	88.4	$\pm$	36.39
e	$=$	0.005115	$\pm$	0.002043
		"		"
Δa	$=+$	0.3297	$\pm$	0.0347

Lassell and Marth's Observations.

		°		°
ΔN	$=-$	1.376	$\pm$	0.4221
ΔJ	$=+$	2.488	$\pm$	0.2820
Δu	$=-$	1.952	$\pm$	0.5099
ω	$=$	101.2	$\pm$	73.28
e	$=$	0.006903	$\pm$	0.003012
		"		"
Δa	$=+$	0.4618	$\pm$	0.0567

The values of the corrections ΔN, ΔJ, and Δu, found for the epoch 1875–1876, from the observations of Professor HOLDEN and myself, are so small that they can be neglected. From my observations of 1881–1884, we have

		°		°
N	$=$	184.314	$\pm$	0.1233
J	$=$	120.052	$\pm$	0.1019
Δu	$=+$	2.2414	$\pm$	0.0984

for the epoch 1882, 7827, Washington mean time. This value of Δu indicates a small correction to Lassell's period of this satellite, which has been adopted by Professor NEWCOMB.

The values of the eccentricity are all small, and this orbit can be assumed circular in all computations for the position of the satellite. Although the probable errors in the angle ω are very large, still there is a general similarity of value, which makes the question of the eccentricity of this orbit worthy of investigation ten or twenty years hence, when the apparent ellipse has become more nearly circular, and when there will be a better opportunity to determine this element from the observations. The valve of Δu will also be better found from such future observations.

The values of the mass of Neptune are as follows:

1875–1876,	mass $= \frac{1}{18666 \pm 112}$
1881–1882,	mass $= \frac{1}{19104 \pm 120}$
1883–1884,	mass $= \frac{1}{19431 \pm 101}$
Professor HOLDEN,	mass $= \frac{1}{18279 \pm 114}$
LASSELL and MARTH,	mass $= \frac{1}{17850 \pm 180}$

From my own observations the mean value is:

Mass of Neptune, $= \frac{1}{19092 \pm 64}$

The values of the mean distance of the satellite from its primary, from which the above values of the mass have been computed, are written here, as they illustrate very well the difficulty of finding an accurate value of the mass in the present case.

1875–1876,	$h = 16''.4893$
1881–1882,	$h = 16.3748$
1883–1884,	$h = 16.2699$
Professor HOLDEN,	$h = 16.6047$
LASSELL and MARTH,	$h = 16.7368$

From these results, it appears that my own measure of the distance has diminished $0''.22$; and the difference between my smallest distance and that of LASSELL and MARTH is $0''.47$. A part of these differences may be accidental, but I think the larger part is personal, and arises from the observer's method of making the bisections. A result similar to that above is shown in my measurement of the distances of double stars when compared with the observations of Professor FRISBY and others on the 26-inch refractor. My distances are generally smaller than those of other observers. In order to eliminate such errors from the determination of the mass of a planet the only way seems to be to increase the number of observers and then to take a mean of their results. In an average condition of the atmosphere the satellite of Neptune is an easy object to measure in the 26-inch refractor whenever its distance from the primary is greater than $10''$. The apparent orbit is becoming more nearly circular, and after a few years the satellite can be observed accurately in all angles of position.

Combining the value of Δu found from the observations of 1881–1884, with the Δu given by the observations of LASSELL and MARTH, the mean daily motion of the satellite is

$$61^\circ.2574208,$$

and its periodic time is

5.876839 mean solar days.

The period given by Mr. LASSELL and adopted by Professor NEWCOMB in his tables is

5.8769 days.